

**ASSESSMENT OF HOUSING AFFORDABILITY IN
ZARIA URBAN AREA**

BY

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DECLARATION

I declare that the work in the dissertation entitled ‘Assessment of Housing Affordability in Zaria Urban Area’ has been performed by me in the Department of Urban and Regional Planning under the supervision of Dr A. Bello and Mal. I. I. Iliyasu.

The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at any university.

.....
Name of Student

.....
Signature

.....
Date

DEDICATION

This research work is dedicated to my parents.

ACKNOWLEDGEMENT

In the name of Allah, the most Gracious, the Most Merciful. All praise is to Allah (SWT).

I thank Allah (SWT) for the opportunity, guidance, protection, strength, and wisdom given me throughout the study.

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ABSTRACT

Given the increasing importance of housing affordability in housing reform debates, and the low socio-economic status of urban households especially in developing countries including Nigeria, this study assessed the housing affordability in Zaria urban area with a view to determining the status of the households in terms of housing affordability. The study employed two approaches to measure housing affordability; the Expenditure-to-Income ratio and the Residual Income approach. Data was collected from the four districts of Zaria using 380 structured questionnaires. The data collected were on socio-economic characteristics of respondents which included data on income, employment and household size. Data on housing characteristics was also collected. This included data on housing type, housing expenditure and basic housing infrastructure. To measure housing affordability using the housing expenditure-to-income ratio, the data on housing expenditure and income collected from each household was used. The housing expenditure was expressed as a percentage of income. The residual income approach takes into consideration the income of households after housing expenditure and the differences in household size. The two approaches yielded separate results. The ratio approach indicated that 52.6% of the households in the study area are faced with problems of housing affordability, while the residual income approach indicated 62.2%. The findings also revealed the predominance of the owner occupier housing tenure and the inadequacy of the basic housing infrastructure in the study area. In order to tackle the housing affordability problem in the study area, there is the need for vigorous government intervention in housing development. The private sector's involvement needs to be highly encouraged too. The study recommends the incorporation of social housing into the housing development policy.

TABLE OF CONTENTS

DECLARATION	ii
CERTIFICATION	iii
DEDICATION	iv
ACKNOWLEDGEMENT	v
ABSTRACT	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF PLATES	xii
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 STATEMENT OF THE RESEARCH PROBLEM	1
1.2 AIM	3
1.3 OBJECTIVES	3
1.4 SCOPE AND DELIMITATION OF THE STUDY	3
1.5 SIGNIFICANCE OF THE STUDY	4
1.6 THE STUDY AREA	4
1.6.1 Historical Background	4
1.6.2 Geographical Location	5
1.6.3 Pattern of development	5
1.7 RESEARCH DESIGN	8
CHAPTER TWO	9
HOUSING AFFORDABILITY: LITERATURE REVIEW	9
2.0 INTRODUCTION	9
2.1 DEFINING HOUSING AFFORDABILITY	9
2.2 THE SIGNIFICANCE OF HOUSING AFFORDABILITY	12
2.3 MEASURING HOUSING AFFORDABILITY	15

2.3.1 Housing Cost Approach/Ratio Approach.....	16
2.3.2 Basic Non-Housing Cost Approach	23
2.3.3 Quality Adjusted Approach.....	25
2.4 REVIEW OF EXISTING HOUSING AFFORDABILITY LITERATURE ON NIGERIA	26
CHAPTER THREE	29
RESEARCH METHODOLOGY	29
3.0 INTRODUCTION.....	29
3.1 DATA REQUIRED AND SOURCES.....	29
3.2 DATA COLLECTION PROCEDURE	30
3.2.1 Questionnaire Administration	30
3.2.2 Interview	33
3.3 METHOD OF DATA ANALYSIS AND PRESENTATION.....	34
3.3.1 Tools for Data Analysis	34
CHAPTER FOUR.....	36
DATA ANALYSIS AND PRESENTATION.....	36
4.0 INTRODUCTION.....	36
4.1 NATURE OF HOUSING DEVELOPMENT AND OTHER LAND USES IN ZARIA URBAN AREA.....	36
4.1.1 Samaru District	37
4.1.2 Sabon Gari District.....	37
4.1.3 Tudun Wada District.....	37
4.1.4 Zaria City District	38
4.2 SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS.....	39
4.2.1 Level of Education	38
4.2.2 Employment Status	39
4.2.3 Employment Type	40
4.2.4 Household size	41
4.2.5 Household Income	42

4.3 HOUSING CHARACTERISTICS	43
4.3.1 HOUSING TYPES.....	43
4.3.2 HOUSING TENURE TYPE.....	46
4.3.3 BASIC HOUSING INFRASTRUCTURE	49
4.4 MEASURING HOUSING AFFORDABILITY	54
4.4.1 Using Expenditure to Income Ratio Approach	54
4.4.2 Using Residual Income Approach.....	58
4.5 STATISTICAL ANALYSIS OF RELATIONSHIPS	63
4.5.1 Testing for association between Housing Affordability and Household Economic Variables	63
4.6 PERCEPTION OF RESPONDENTS ON HOUSING IMPROVEMENT	68
4.6.1 Responses of Respondents whose Expenditure-to-Income Ratio fell over 30%	68
4.6.2 Respondents perceptions on areas of improvement in housing based on preference	69
4.6.3 Willingness to pay more for better housing	69
4.6.4 Potential Economic Activities by Households	70
4.7 IMPLICATION OF FINDINGS	71
CHAPTER FIVE	73
SUMMARY, RECOMMENDATIONS AND CONCLUSION	73
5.0 INTRODUCTION	73
5.1 SUMMARY OF KEY FINDINGS	73
5.2 CONCLUSION	75
5.3 RECOMMENDATIONS	74
REFERENCES	80

LIST OF TABLES

Table 3.1: Types of Data Required and Sources.....	28
Table 3.2a: Districts Population and Sampling Size.....	31
Table 3.2b: Questionnaire administration within neighbourhoods.....	32
Table 3.3: Summary of Tools for Data Analysis and Method of Data Presentation.....	33
Table 4.1: Level of Education.....	38
Table 4.2: Employment Status.....	38
Table 4.3: Employment Type by District.....	39
Table 4.4: Household size.....	41
Table 4.5: Income level of respondents.....	41
Table 4.6: House type occupied by respondents based on number of rooms	44
Table 4.7: Housing Tenure Type by District.....	46
Table 4.8: Cross-tabulation of Housing Tenure and House Type.....	46
Table 4.9: Average Annual Rent by District.....	47
Table 4.10: Types of toilet.....	49
Table 4.11: Sources of water	51
Table 4.12: Housing Expenditure to Income Ratio in the study area.....	54
Table 4.13: Mode of Acquisition of House for the Owner-occupied Housing Tenure Group.....	55
Table 4.14: Housing Expenditure-to-Income Ratio for Owner-occupied (Self-build) Housing Tenure Group.....	56
Table 4.15: Housing Expenditure-to-Income Ratio for Rental Housing Tenure Group.....	56
Table 4.16: Monthly Basic Non-Housing Expenditure based on Housing Tenure Group.....	60
Table 4.17 Correlation between Housing Affordability and Household Economic Variables.....	66
Table 4.18: Respondents perceptions on areas of improvement in housing based on preference.....	69
Table 4.19: Willingness to pay more for better housing.....	69

LIST OF FIGURES

Figure 1.1: Map of Zaria Urban Area	6
Figure 1.2: The Districts in Zaria Urban Area	7
Figure 1.3: Research Design	8
Figure 4.1: Employment Type.....	41
Figure 4.2: Distribution of House Types in the Study Area	43
Figure 4.3: Tenure type in the study area.....	46
Figure 4.4: Satisfaction with pour-flush	50
Figure 4.5: Satisfaction with water closet.....	50
Figure 4.6: Satisfaction with pit latrine	50
Figure 4.7: Satisfaction with pipe borne water supply	51
Figure 4.8: Satisfaction with borehole water supply	52
Figure 4.9: Satisfaction with well water supply	52
Figure 4.10: Satisfaction with cart water supply	53
Figure 4.11: Housing Affordability in the study area (residual income approach).....	58
Figure 4.12: Housing Affordability for Owner-occupied Housing Tenure	59
Figure 4.13: Housing Affordability for Rental Housing Tenure	60
Figure 4.14: Pattern of Housing Affordability by Districts in Zaria Urban Area (using ratio approach)	Error! Bookmark not defined.
Figure 4.15: Pattern of Housing Affordability by Districts in Zaria Urban Area (using residual income approach)	62
Figure 4.16: Histogram of Housing Affordability	63
Figure 4.17: Q-Q Plot of Housing Affordability	63
Figure 4.18: Histogram of Housing Expenditure	64
Figure 4.19: Histogram of Transformed Housing Expenditure (Tr_Hex).....	64
Figure 4.20: Q-Q Plot of Transformed Housing Expenditure	64
Figure 4.21: Histogram of Income	65
Figure 4.22: Histogram of Transformed Income (Tr_Inc).....	65
Figure 4.23: Q-Q Plot of Transformed Income	65
Figure 4.24: Histogram of Household Size.....	66
Figure 4.25: Q-Q Plot of Household Size.....	66
Figure 4.26: Responses on housing affordability of respondents whose expenditure to income ratio fell over 30%	68
Figure 4.27: Potential Economic Activities by Households.....	70

LIST OF PLATES

Plate I:	44
Plate II:	44
Plate III:	44
Plate IV:	45

CHAPTER ONE

1.0 INTRODUCTION

One key component in the drive to achieve economic growth and development in cities that has been indicated in past studies is housing. Housing is one of the basic needs of man owing to his need for security, privacy and protection from negative impacts of the environment. With respect to the built environment, housing plays an important role in the enhancement of human health, social and economic welfare of the society. In spite of numerous efforts by successive Nigerian governments and even the private sector to tackle housing challenges in the country, the residential housing problems seem to soar beyond solution. These problems are caused by several factors. These include rapid urban population growth due to high fertility rate, rural-urban migration, and the desire for jobs, better facilities and opportunities.

With the increasing urban population and the low socio-economic positions of many urban households, particularly in developing countries, housing affordability issues become inevitable and cannot be overlooked. Housing affordability reveals the extent to which households are able to pay for housing. Housing affordability jumbles together in a single term a number of different issues which include but not limited to the distribution of housing prices, the distribution of housing quality and the distribution of income (Quigley and Raphael, 2004). Households should be able to occupy housing that meets well established social norms of adequacy (given household type and size) at a net rent which leaves them enough income to live on without falling below some poverty standard (Bramley, 1990).

In order to ensure the welfare of urban households, especially in developing countries, it is imperative to address housing affordability. This is so since housing is the most

important factor for the physical survival of man after the provision of food (Munonye, 2009). Okedele et al (2009) asserted that, in the evaluation of man's comfort, growth and development, it is inevitable that housing be considered as a critical element.

1.1 STATEMENT OF THE RESEARCH PROBLEM

Like many urban areas in Nigeria, Zaria has been experiencing urbanization. This can be attributed to natural population growth, rural-urban migration driven by socio-economic changes and development, and the desire for jobs and opportunities. However, this growth has not been matched with simultaneous provision of adequate infrastructure, resource development and employment opportunities leading to overcrowding in homes, unaffordable rents, and poor urban living conditions in the area. Given the low socio-economic status of the residents of Zaria urban area, as indicated by Alhassan (2011), and the importance of housing in economic development, it will be imperative to examine the housing affordability among households in Zaria in order to provide a reliable basis for deliberate stakeholders' interventions in the area.

Numerous studies have been conducted on housing in the developing countries, but such studies often deal with issues relating to quality and finance. Very few studies have been conducted on housing affordability as it relates to existing housing stock in Nigeria; particularly as it relates with housing policy and how it affects resident's standard of living (Ndubueze 2009 and Abimaje 2014). Affordable quality housing provision requires an in-depth exploration of the existing dynamics of housing affordability which is often case specific. There is the need therefore for additional insight into housing affordability in Nigeria, especially in fast growing institutional towns such as Zaria. As such, this study sets out to assess housing affordability in Zaria urban area using relevant household economic variables.

1.2 RESEARCH QUESTIONS

The research will address the following questions;

1. What is the status of households in terms of housing affordability in Zaria Urban area?
2. What are the urban management implications of housing affordability situation in Zaria Urban area?

1.3 AIM

The aim of this study is to assess housing affordability in Zaria urban area and to examine the interrelationship between household economic variables. This is with the view of developing appropriate recommendations.

1.4 OBJECTIVES

1. To review the relevance of housing affordability in urban management.
2. To assess housing affordability across the districts in Zaria urban area.
3. To establish the implications of housing affordability situation in Zaria urban area.
4. To provide recommendations that will aid affordable quality housing provision

1.5 SCOPE AND DELIMITATION OF THE STUDY

The study focuses on assessing the housing affordability among urban households. The study was conducted within the four districts of Zaria Urban Area namely; Samaru, Sabongari, Zaria walled city and Tudun Wada.

In order to achieve the set aim, households under the ownership housing tenure and rental housing tenure were studied. Staff housing and student hostels were not included in the study. This is mainly because a large proportion of students are not residents and thus, do

not constitute households in the area. In the case of households in staff housing, their housing problems are not as severe as those of other households in the area.

There were inconsistencies in the housing expenditure of owner-occupiers (especially those who purchased their houses). Owing to the difficulty in computing such varying expenditure, because some were still making payments for their houses while others have settled and some were making one-time initial expenditure, this study (after adequate literature review) included only owner-occupiers who built their homes and have stayed for at least two years. This is so that meaningful analysis could be made.

1.6 SIGNIFICANCE OF THE STUDY

Housing is one key component in cities' development and must be approached delicately especially if the national housing policy goal of ensuring adequate and affordable housing for all must be attained. In the light of such policy goal, it is crucial to examine the housing affordability of the major tenure groups in the study area. This will deepen our understanding of local housing realities among residents, and more importantly offer possible insights into how best to effectively deal with their respective housing problems. Such information at the local level is important, as it will provide basis for proper policy intervention by stakeholders and decision makers.

1.7 THE STUDY AREA

1.7.1 Historical Background

In 1901, Zaria came under British rule by the advancement of British forces led by Sir Frederick Lugard. The British found in Zaria a well-established feudal society of Muslim faith. They introduced the system of indirect rule with the intention of preserving the local and traditional institutions and customs. The city is considered by some to be a main centre of Hausa agriculture. Zaria serves as a market town for the surrounding areas

like Soba, Giwa and Makarfi. It is also the home of numerous artisans, from traditional crafts like leatherwork, dyeing and cap making, print shops and furniture makers. Zaria is also the centre of a textile industry that for over 200 years has made elaborately hand-embroidered robes that are worn by men throughout Nigeria and West Africa.

1.7.2 Geographical Location

Zaria Urban area is located between latitude $11^{\circ}01'36''\text{N}$ and $11^{\circ}12'21''\text{N}$ and $7^{\circ}33'00''\text{E}$ and $7^{\circ}50'00''\text{E}$ as presented in figure 1.1. The urban area is made up of Sabon Gari and Zaria local government areas and some parts of Giwa Local government area which includes Shika. Zaria Urban Area is bounded by Kudan to the North (about 26 km), Igabi to the South (about 50 km), Soba to the East (about 40km) and Giwa to the West (about 29km).

1.7.3 Pattern of development

Zaria urban area comprises of two local government areas namely, Zaria and Sabongari. By the existing pattern of settlements, Zaria urban is composed mainly of four districts; Samaru, Tudun Wada, Zaria city and Sabongari as seen in figure 1.2. The land use pattern in Zaria urban area is mostly mixed. The commercial heart is located along PZ, GRA and Sabongari. The residential areas are a mix of high, medium and low residential density. Zaria is an old commercial, administrative and academic town in northern Nigeria. Urban development has recently been characterized by a high rate of land conversion. High consumption of land for both commercial and residential uses in the city centre has stimulated the extension of built up areas to the city outskirts. Large areas of agricultural land have been taken over by individuals, paving way for peri-urban development.

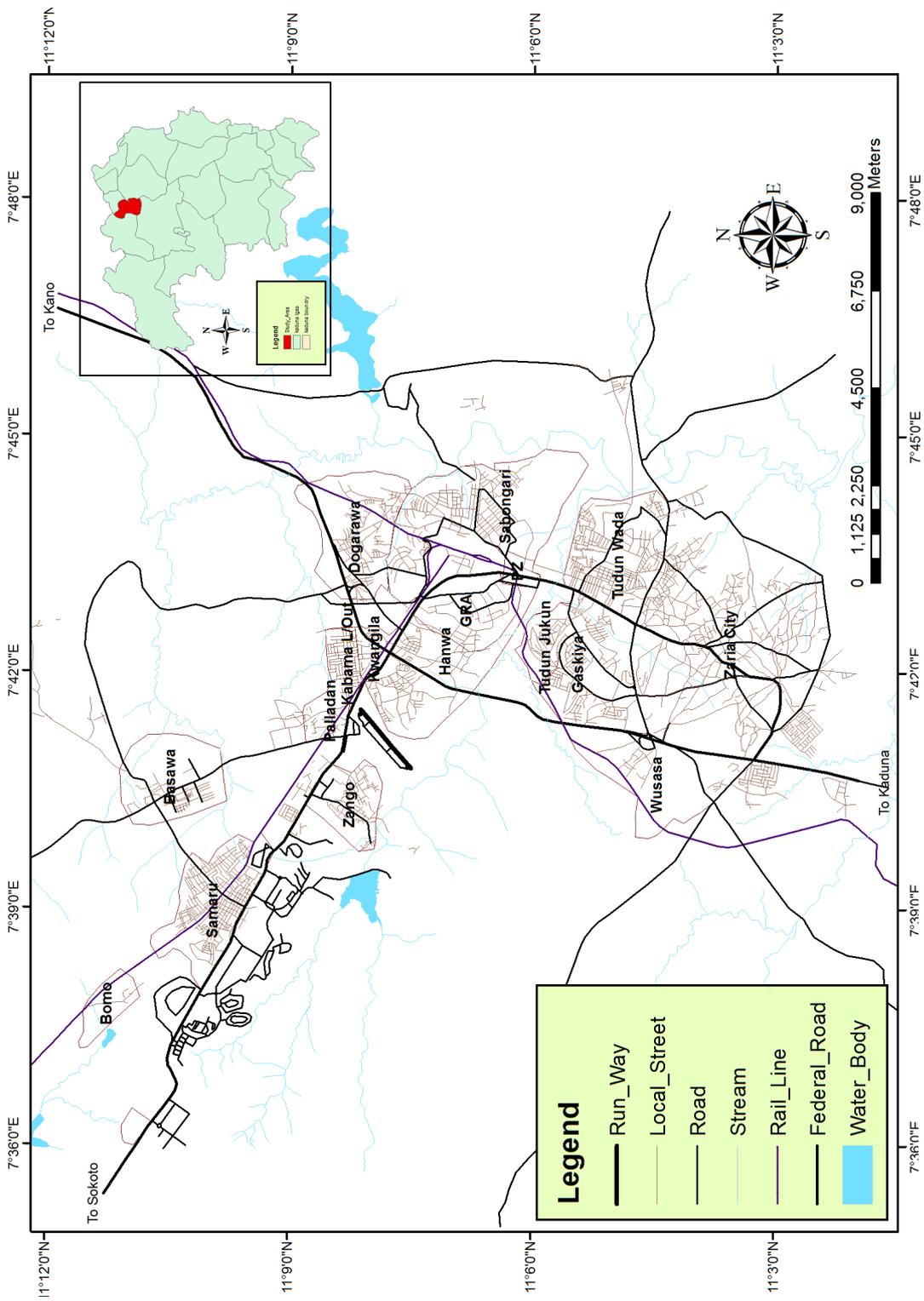


Figure 1.1: Map of Zaria Urban Area

Source: Adopted and Modified from Google Earth Pro, 2015

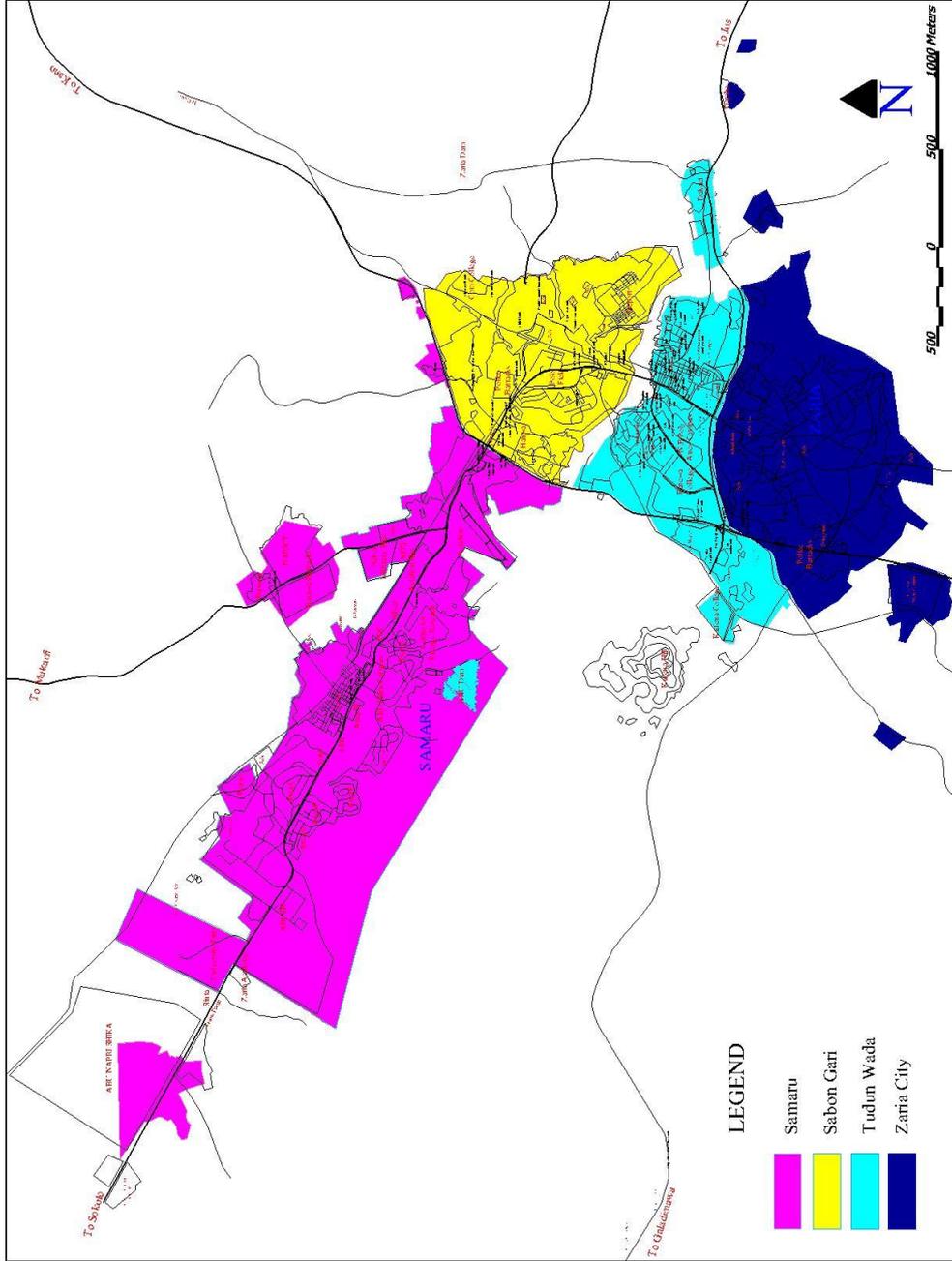


Figure 1.2: The Districts in Zaria Urban Area

Source: Hassan, 2014

1.7 RESEARCH DESIGN

To achieve the set objectives of this study, the research has been organised as shown in figure 1.3.

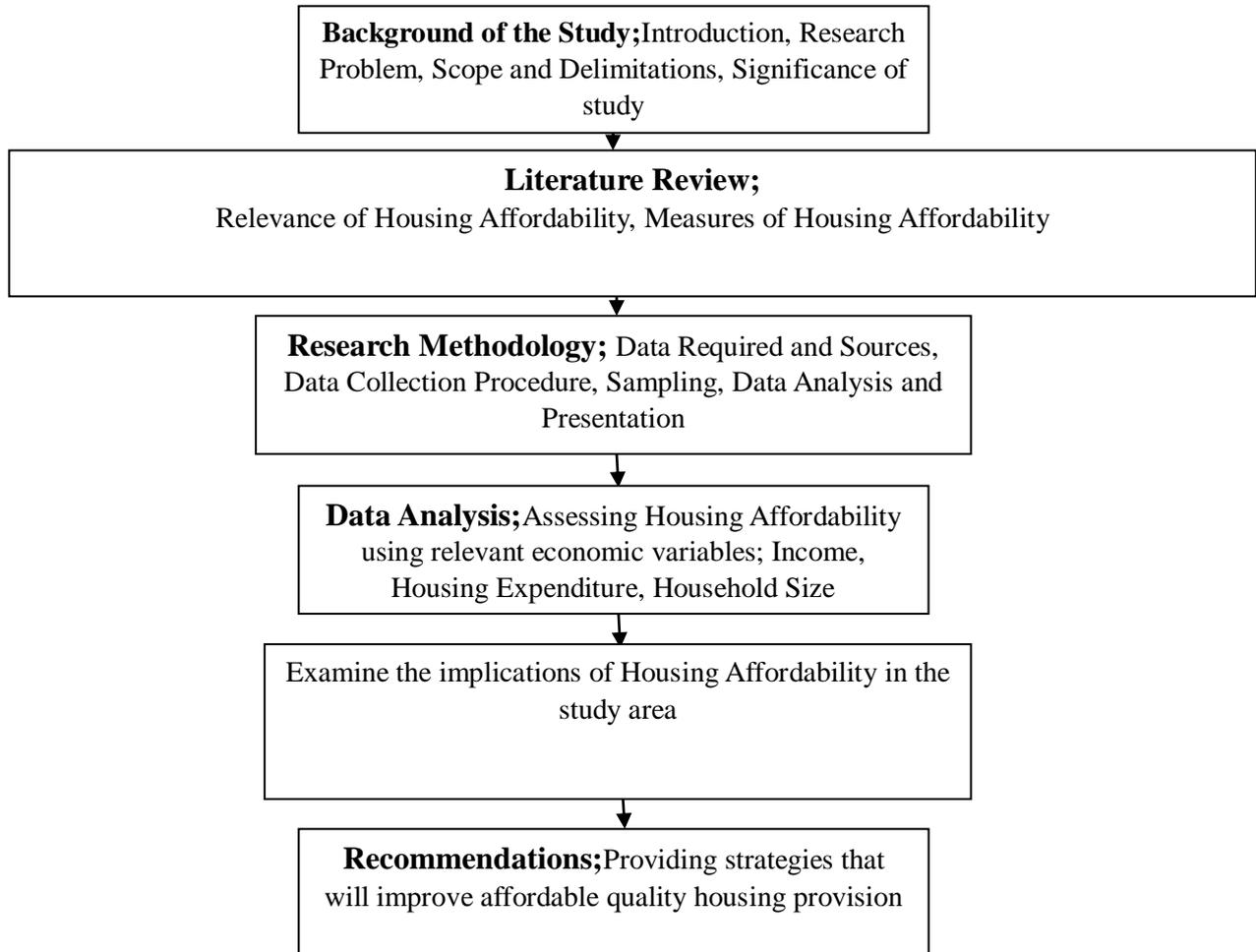


Figure 1.3: Research Design

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This section provides discussion on the definition of housing affordability, the various concepts of housing affordability, the significance of affordability and the various approaches of measuring housing affordability. The section also provides a discussion on some of the existing housing affordability literature in Nigeria.

2.1 DEFINING HOUSING AFFORDABILITY

The term housing affordability has come into popular usage in the last two decades replacing 'housing need' at the centre of debate about the provision of adequate housing for all (Whitehead, 1991; Swartz and Miller, 2002). Fallis (1993) asserted that this move could be attributed to the increasing adoption of more market-oriented transformations within the housing sector in many countries. Consequently, increasing concerns over rising levels of homelessness, housing costs, mortgage defaults and foreclosures, declining neighbourhoods, and over-heated housing markets have together pushed housing affordability into the centre of housing policy discourse since the early 1990s (MacLennan and Williams, 1990; Whitehead, 1991; Boelhouwer and Van der Heijen, 1992; Freeman and Whitehead, 1997; Bramley, 2005;). The term housing affordability simply means the ability to afford housing. However, beyond this point, any attempt to precisely define and grapple with the concept becomes slippery. Linneman and Megbolugbe (1992) agreed, "talk of housing affordability is much, but the precise definition of housing affordability is at best vague." A survey of literature reveals a lack of agreement among academics and housing development experts on how it should be defined and measured. This may be attributed to the fact that housing affordability is

an argued issue in which different groups try to provide their own definition and solution to the problem (Gabriel et al., 2005). The ambiguous nature of housing affordability was properly captured by Quigley and Raphael (2004) in stating that; “Affordability jumbles together in a single term a number of disparate issues: the distribution of housing prices, the distribution of housing quality, the distribution of income, the ability of households to borrow, public policies affecting housing markets, conditions affecting the supply of new or refurbished housing, and the choices that people make about how much housing to consume relative to other goods.” This mixture of issues raises difficulties in interpreting even basic facts about housing affordability. It has been suggested that this ambiguity is not unconnected to the different understandings and contentions of the root causes of housing affordability problems especially the extent to which it can be attributed to inadequate household income or inadequate housing. The task of conceptualising and measuring housing affordability is as complex as understanding its causal factors. MacLennan and Williams (1990) offered one of the most helpful definitions of housing affordability as “concerned with securing some given standard of housing (or different standard) at a price or a rent which does not impose, in the eye of some third party (usually the government) an unreasonable burden on household incomes.” According to Bramley (1990) “households should be able to occupy housing that meets well established (social housing) norms of adequacy (given household type and size) at a net rent which leaves them enough income to live on without falling below some poverty standard.” As observed by Hancock (1993) these two definitions are concerned with standards of housing consumption and more importantly, they capture the notion of opportunity cost, which she regarded as the essence of housing affordability: i.e. what has to be foregone in order to obtain housing and whether that which is foregone is reasonable or otherwise excessive in some sense. Hancock further observed that in these

definitions, housing and basic non-housing goods are taken as merit goods, i.e. goods whose consumption has a socially desirable minimum within the society. Also, “any rent would be affordable, which leaves the consumer with socially-acceptable standard of both housing and non-housing consumption after rent is paid” (Hancock, 1993). In a different way, affordability denotes the ability of households to pay the costs of housing without imposing constraints on living costs (Stone, 1993). Putting these elements together, Freeman and Whitehead (1997) asserted that housing affordability focuses on the relationship between housing expenditure and household income and defines a (relative or absolute) standard in terms of that income above which housing is regarded as unaffordable. Affordability does not just consider housing but also what quality of housing is consumed and whether the household has enough income remaining for other requirements of life after offsetting the cost of housing.

The adequacy of shelter and residual income (i.e. remaining income after all personal debts including house rent have been paid) are considered the essential components of the definition of housing affordability. Such definitions inherently involved value judgments about not only the quality and merit-goods attributes of housing but also about the relationship between housing expenditure and housing income and acceptance of the view that housing should represent no more than a given element within that income (DTZ Research, 2004). In order to operationalise these definitions, the standards are usually defined in a relative way. The problem is that there is hardly any consensus around need-type standards (such as living standards) on which many definitions of housing affordability are based. There is therefore, a lack of consensus on how best to measure the extent of discrepancy between the housing expenditure of households and what they are expected to spend given their consumption. There are different perspectives on the maximum percentage of income that households of different sizes,

compositions, and incomes should be expected to have to pay for housing, or whether it even makes sense to specify a maximum, given the role which individual taste and preferences play in the choice of both housing and non-housing consumption.

The nature of housing affordability and the solutions to address housing affordability problems have perhaps indicated that the term cannot be defined in any objective sense, as it will always be subject to reinterpretation.

2.2 THE SIGNIFICANCE OF HOUSING AFFORDABILITY

Central to the achievement of adequate provision and distribution of housing is the issue of managing the relationship between the price of housing and the capacity of the household to pay for their housing (Malpass and Murie, 1994). It is hardly possible to justify the relevance of housing affordability without being tempted to discuss the importance of housing and its centrality in our day-to-day life. Stone (1993) succinctly noted that; “Housing is not only a necessity of life; it has a pervasive impact on all aspects of our existence. Housing – if it is adequate - provides privacy and security against intrusions, both physical and emotional. It is the principal locus of personal and family life. It defines the community and determines access to jobs, to services, to stores, and to significant other people in our lives. It contains not only our material possessions, but our dreams and despair.”

According to Swartz and Miller (2002) “it is a key factor in determining a family’s access to economic and educational opportunities, exposure to violence and environmental hazards, and ability to accumulate financial assets’. However, the importance of housing affordability considerations goes much beyond the personal troubles experienced by individual households. As contended by Gabriel, et al. (2005) housing affordability has “implications not just for housing but also for employment,

health, labour market, aged care, finance, community sustainability, economic development and urban and regional development.” According to Baker (2003), it also affects our national economic well-being: the rate of economic growth and our prosperity; and influences the distribution of resources between regions, individuals and generations.

As has been contended by Yates et al (2007) “housing affordability is important not just because of the costs borne by the individual households experiencing high housing costs, but also because it imposes costs on the wider economy and society.” Thus, an increase or decrease in housing affordability often has significant impact on a household’s budget, with far reaching implications especially if there is a downward shift in affordability (Stone, 1993; Quigley and Raphael, 2004; Stone, 2006). At the household level, reduced affordability could compel a household down the housing ladder or indeed trap such a household in a poor housing environment indefinitely. This exposes such households to all the dangerous and undesirable (physical, health, emotional, mental) consequences often associated with living in sub-standard, overcrowded and derelict housing environments. There is a clear pattern of association between substandard living conditions and reduced performance in school and at work place, which limits employment, career potential and opportunities within such affected households (Biggar, 2001; Lawrence, 2004; Nair and Rekha Radhakrishnan, 2004). These situations further serve to undermine and weaken the often fragile income base and tenure security of households with destabilizing effects on normal family life. These frustrations and backlashes could find expression in antisocial behaviour and violence in homes, and family breakdowns (Affordable Housing National Research Consortium, 2001; Working Party on Affordability Issues, 2003; DTZ Research, 2004; Gabriel et al., 2005 as cited in Ndubueze, 2009).

Adequate and affordable housing is an essential component in the achievement and maintenance of an inclusionary, innovative and productive society (DTZ Research, 2004). This could result in a reduction in spending power of a household which could trigger a decline or discourage investments in such areas or neighbourhoods. Consequently, such communities could degenerate into shattered neighbourhoods with a poor social infrastructure (Stegman, 1998). This ability to give a spatial character to such social problems that bears further negative impacts was recognised by Gabriel, et al. (2005) who observed that “the sifting and sorting of households in response to differentials in relative affordability across large metropolitan areas can create spatial polarisation and impair economic and social sustainability.”

Berry (2003) went further to show how housing affordability impacts local economic development and regional competitiveness. High housing costs in a city could frustrate and alienate young, creative workers at the beginning of their careers who actually drive innovation at workplaces. Thus, this critical innovative group could be forced to move away from such areas to find more favourable housing markets elsewhere. This movement in search of more affordable housing and a sustainable lifestyle can also affect low and medium paid workers, which could shrink the available labour pool in an area. Labour shortages clearly limit the viability and the competitive edge of any area and economic zone. Furthermore, high housing costs have always been known to drive local wages and salaries upward, which tends to undercut the competitive position of local producers. More often, high housing costs also tend to crowd-out other non-housing consumption to the detriment of non-housing sectors of the economy. These factors could have a severe impact on investment opportunities and alternatives of an area or region, thereby limiting economic growth and development (Swartz and Miller, 2002; Berry, 2003; South East England Development Agency, 2003; Gabriel et al., 2005; Yates

et al., 2007). It should also be noted that the value of residential land and properties are often higher in cities since they capitalise the net benefits of urban life – higher wages and incomes, better community services and infrastructure, and greater access to employment opportunities. In most countries, the bulk of the national wealth is in form of residential housing investment and assets. For instance, in 1998, mortgage lenders in United States originated an estimated \$1.5 trillion in new mortgages for purchase of new homes and re-financing of existing ones while mortgage backed up securities stood at a staggering \$2.4 trillion (Greenspan, 1999). In the United States, the market value of the residential property stock is approximately equal to the annual average GDP in 2001 (Davis and Heathcote, 2005). In the United Kingdom, Denmark, the Netherlands, Sweden and Germany, the ratio of mortgage to GDP exceeds 50% (Merrill et al., 1999). In many countries, the value of the residential capital stock is often greater than that for business capital, and usually, the annual market value of residential investment is larger than that for business capital investment (Greenwood and Hercowitz, 1991; Skinner, 1994). As a result, the influence of housing affordability (especially home ownership affordability) on the national economy cannot be over emphasized. There is an evident increase in the interest which the housing sector elicits within the overall framework of the national economic management. Beyond the traditional benefits of the housing industry in stimulating diverse sectoral employment and multiplier effects, there is a growing interest among housing, urban and macro economists in the significant influence of the housing sector on the national economy and how housing markets could be used to stimulate economic growth.

2.3 MEASURING HOUSING AFFORDABILITY

Considering the lack of common consensus on how best to define various elements of housing affordability and the differing circumstances of individual households, there is

no common generally accepted method to measure it. As a result, different approaches highlighting different elements of the concept have been developed over the years. No single standard of affordability is accurate for all situations. Marjorie (1998) contended that policy analysts and scholars often devise housing affordability indices based on a combination of indicators, assumptions and analytical methods. He therefore suggested that “when it comes to assessing housing affordability, scholars need to determine which indicators and methods best suit their research needs” (Marjorie, 1998). Attempt will be made in this sub-section to present the major approaches and key measures of housing affordability. These are the Housing Cost Approach, The Non-Housing Cost Approach, Quality-Adjusted Approach.

2.3.1 Housing Cost Approach/Ratio Approach

The housing cost approach commonly referred to as the housing expenditure-to-income approach is the most common measure of housing affordability. This approach has its origin early in the turn of 20th century in North America when mortgage lenders began to use it and later decades when private landlords adopted it as part of their assessment and selection criteria (Hulchanski, 1995). This approach simply conceives housing affordability as the measure of the ratio between what households pay for their housing and what they earn. A ‘rule of thumb’ standard of no more than 25% (or sometimes 30% and higher) of household monthly income being spent on housing costs is deemed appropriate and affordable. Contrary to any technical or scientific justification, the 25% affordability benchmark was gradually developed and accepted over time based on elements of social values and existing historical and institutional structures. In tracing the historical review of its origin, Feins and Lane (1981), observed that this tradition was rooted in common wisdom and experience in America where by the end of the 1930s the notion was generally accepted as a way to describe actual family

housing expenses and a standard for the maximum proportion of income that should be devoted to mortgage payments. Although a lot of people recognise that the rule is not an accurate statement of all household budgets, they found it a convenient way to simplify a complex issue (Feins and Lane, 1981). However, there is an increasingly critical debate in the continuous use of the 25% rule of thumb as a standard in measuring affordability (Hulchanski, 1995; Freeman and Whitehead, 1997; Thalmann, 2003; Stone, 2006). In commenting on the inadequacy of the 25% rule of thumb standard, Hulchanski (1995), observed that what has occurred over the decades was the translation of observations about what some households were spending to assumptions about what a household ought to spend. The summary of these observations and assumptions later took the easy-to-use format of a ratio of expenditure-to income ratio. As such, the 25% housing expenditure-to-income ratio became a rule of thumb about how to minimise risk in renting an apartment or granting a mortgage to a particular household. Hulchanski argued that no valid absolute law can be put forward about the relationship between incomes and housing. There are two variations of expenditure-to-income approach namely house price-to-income ratio (for assessing the housing affordability of homebuyers) and rent to income ratio (for assessing the housing affordability of rental households).

a) House Price-to-Income Ratio

House price-to-income ratio is a widely used affordability ratio, which specifies the level of the median free-market price of a dwelling unit relative to the median annual household income. Many analysts have relied directly on this ratio as a measure of housing affordability since housing expenditure tends to rise with house prices. This is based on the fact that house price is a key determinant of home ownership affordability. It is therefore assumed that rising house prices not only hinder the ability of potential buyers to accumulate the required down payment (which is usually a specified percentage of the

house price) but also push up the monthly mortgage payments on a loan. As a result, buyers must have higher income to meet the qualifying criteria, which in the United States is about 3.5 to 4.0 multiple of the mortgage payment (corresponding to about 29% and 25% expenditure to income ratio respectively (Linneman and Megbolugbe, 1992). Most mortgage credit institutions rely mostly on this type of measures in their risk assessment of potential customers. The increasing use of this ratio in the World Bank/UNDP/UNCHS in their Urban Management Programme has contributed to its wide recognition as a major measure of affordability. Beyond giving an indication on how much a dwelling might reasonably cost consumers if they were to live elsewhere, the house-price-to-income ratios are used principally to provide insight on the level of access to homeownership in an area. It is generally regarded as the “best measure of pressure on the housing market and ratios of 3 to 5 are regarded as normal (Flood, 2001). However, based on calculations converting 25% income into selling prices of a house, the standard rule of the thumb here is that this ratio should not be more than 2.0 to 2.5 of household annual income, and monthly carrying cost not exceeding 1% of house’s value (Feins and Lane, 1981).

Is it worth mentioning that its increasing usage is also based on policy presumption that households have a preference for ownership and will seek this first, relying on other rented tenures if and only if they can’t own. In this sense, the house price to income ratio seems to be particularly suitable for advanced capitalist economies with developed financial mortgage markets, high levels of ownership and distinct effective policy support for it.

Generally, home ownership affordability is difficult to measure and interpret owing to the fact that the tax and investment elements of homeownership weaken the relationship between ongoing cash outlays and housing expense in a true economic sense. Beyond the

limitation of the rule of thumb, a number of limitations have been observed in the use of this ratio. It has been observed that this ratio does not control for changes in housing quality and the impact of expected appreciation in cost of housing (over time). The ratio does not also account for the actual financial constraints that may be faced by home-buyers. It also ignores the other components of housing costs such as mortgage interest rates and down payments both of which fundamentally determine monthly mortgage payments. The ratio does not account for locational variations in median incomes and mix of homes available for sale. Neither does it distinguish cases of high house price-to-income ratio that may be due to a preference for high housing consumption (Linneman and Megbolugbe, 1992; Hancock, 1993; Hulchanski, 1995; Bourassa, 1996; Freeman and Whitehead, 1997; Burke and Ralston, 2003; DTZ Research, 2004).

However, there are also some advantages in the use of this ratio, which have sustained its popularity over the years. The ratio is easy to calculate and understand. The data required for calculating the ratio are also readily available from official sources in many countries. The ratio is also amenable to use in comparative studies across different areas and over different periods. As has been asserted by Bogdon and Can (1997), if used in conjunction with other affordability measures, the house price-to-income ratio has the potential to provide a useful starting point to examine housing affordability problems.

b) Rent-to-Income Ratio

Rent-to-income ratio measures rental-housing affordability. It is the most conventional of all housing affordability indicators especially in those circumstances where the interest of the analyst or policymaker is in what might be termed the very margins of affordability – e.g. where other than renting is not an option; or where not being able to rent shuts you out of the residential market altogether. Based on the rule of thumb, it is a proportional

measure, “wherein affordable housing costs are set as a fixed proportion of income” (Landt and Bray, 1997). In other words, it measures the ratio of the median annual rent of a dwelling unit in relation to the median annual household income of renters. The model presupposes that affordable rental-housing should cost no more than a certain percentage (usually about 25-30%) of household's monthly income. Despite its seeming simplicity and uncomplicated outlook, there has been considerable debate about the exact formula that should be used in calculating the ratio, given that it behaves differently in different empirical contexts. Debates have largely revolved around the use of gross income, net income, equivalent income, equivalent-after-tax income; the addition of any housing allowance to rent or to net income; the use of actual expenditure and expected expenditure. This has resulted in the development of many variations of this ratio and different countries adopt different measures in relation to their particular housing subsidy or social housing benefit systems (Hulchanski, 1995; Freeman and Whitehead, 1997; Landt and Bray, 1997). There is also the issue of ‘service charges’ or non-housing costs that are a necessary part and parcel of the monthly housing-related payment. Often these are not optional – and they muddy the distinction between ‘housing’ and ‘non-housing’ costs. It is a particular issue in the UK where tenants need to also make contributions towards general maintenance and facilities, security, play facilities, and others.

In a responsive and efficient housing market, the range of housing prices and rents have to be such that they respond to all sections of the population and reach the lowest segments. Thus, these indicators are based on the assumption that, for households, access to adequate housing means that housing expenditures do not take up an undue portion of their income. Conventionally, this ‘undue portion of the income’ in various countries may range between 25 to 35 percent of household income (Freeman and Whitehead, 1997; Landt and Bray, 1997; Marjorie, 1998). An extensive literature review showed that this

ratio has been used extensively to analyse the regional and national housing affordability situation in virtually all the countries where such studies have been done especially in North America, Europe, Australia and New Zealand. In these countries, its wide but differing application has been useful in a number of ways, which includes; application as a tool for national housing analysis and policy definition; rent setting in social housing; selection of tenants for public housing, setting of housing allowances and determination of housing grant levels (Freeman and Whitehead, 1997; DTZ Research, 2004).

Burke (2003) noted that the underlying assumption of this ratio is that housing is not the key component in any income security system, and that income supplements are the appropriate way to ensure an adequate standard of living, not housing. In other words, if after paying for housing, a household does not have enough money for other essential non-housing expenditure, then the household should be considered to have an income problem not necessarily a housing problem – a view shared by many mainstream pro-market economists. In his criticism of the ratio, Hulchanski (1995) contended that the ratio can be a valid and reliable way to administratively describe housing expenditures of households and to analyse trends and define eligibility criteria and subsidy levels for public housing purposes. He however, maintained that the ratio cannot be used as a scientifically justifiable basis to define eligibility levels for housing allowance, tenant selection or rent setting and housing needs of households as it does not effectively capture the household's ability to pay for housing. Identifying a common weakness of the rent-to-income ratio, Hancock (1993) observed that the ratio has a tendency to record as affordable when a household consumes less than the minimal socially accepted standard of housing in favour of more non-housing consumption. Conversely, the ratio tends to show as unaffordable situations where a household chooses to consume a higher than expected standard of housing while still able to consume more than the minimum

standards of non-housing consumption. Thus, there is a problem with this ratio where a given household chooses freely to consume less than the minimum standard of housing in favour of having and enjoying more non-housing consumption.

Many, including Freeman and Whitehead (1997); Burke (2003); and Kutty (2005) have criticised the ratio for its arbitrary yardstick that lacked scientific justification. Marks (1984), in his study of housing affordability and rent regulation in Canada, criticized the use of this ratio for its arbitrary rule of thumb origin. The limitations he associated with the ratio are the failure to account for the influential factor of household size in household expenditure, difficulty in reflecting changes in the relative prices of household expenditure; inability to adjust to either the actual amount of housing services being consumed or alternative substitutes available to households; and its cyclical sensitivities due to its reliance on current income than permanent income of households. According to Hulchanski (1995) the ratio failed in accounting for the diversity of household types, stages in family cycle of each household, the diversity in consumption patterns and suffers the problem of defining income based only on cash income. It could also be a poor measure if used as a measure of hardship to assess either a household's ability to pay or those that should qualify for targeted housing assistance (Thalman, 2003) and it does not take housing quality into account in its measure of housing affordability (Gabriel et al., 2005).

To reduce some of these shortcomings, some researchers are in favour of separate standards for different income groups in the application of the ratio (Marjorie, 1998). However, the ratio also has some peculiar advantages. It shares all the advantages of its variant house price-to-income ratio that have been earlier discussed in simplicity, comprehensibility, availability of required data and amenability to spatial and trend comparative housing studies. It also makes very limited subjective assumptions about the

household consumption. In spite of its limitations, it has continued to enjoy popular usage largely due to a lack of comparable alternatives that can be calculated and interpreted and understood with as much ease (Thalman, 2003).

2.3.2 Basic Non-Housing Cost Approach

This approach conceives housing affordability from a basic non-housing consumption perspective. Over the years, it has developed with variants, such as the 'residual income' based approach, 'shelter poverty' approach, 'after-housing poverty' approach, and 'market-basket' approach. This approach was initially developed from debates and discussions around social security systems and household budget standards, which were essentially outside housing. Since then, it has drawn the attention of many scholars particularly in relation to merit goods discourse (Freeman and Whitehead, 1997). The approach attempts to address some of the basic problems of rule of thumb measures by making accurate calculations of the impact of housing costs on the residual income of households with the view to assessing their ability to meet minimum standards of living. Underlying this approach is the fundamental assumption that housing consumption plays a critical role in any social security system and should therefore be used to address income problems (Grigsby and Rosenberg, 1975). In other words, it is not income alone but housing cost along with income that determines the overall standard of living for households (Stone, 1993).

The residual income approach measures whether the households' income after deducting the standard housing consumption is sufficient to cover non-housing needs. In other words, a household could be considered having a housing affordability problem when its income after housing expenditures falls below the prescribed level of minimum socially acceptable or desirable non-housing consumption, therefore, the appropriate indicator of housing affordability should be the differences between housing costs and the residual

income exist after paying for housing (Stone, 2006). Moreover, Stone (2006) developed the concept of shelter poverty, which described the situation when housing costs are too high that households cannot meet their non-housing consumption. Kutty (2005) defined housing-induced poverty as the situation when a household cannot afford the poverty basket of non-housing goods after paying for housing; and he also claimed that “this basket is assumed to be two-thirds of the official poverty line. Thus, a household at the poverty line would enter housing-induced poverty if its housing expenditures exceeded one-third of its income”.

Compared to the ratio approach, the residual income approach has several merits: first, it takes the housing decisions of individuals and social acceptable level of consumption into account. The logic is that some rich families may spend 90% of their income on housings but still maintain superior living standards; this phenomenon could be viewed as a problem when using the established ratio approach. However, some extremely poor people may not survive or survive but suffer severe subsistence problem even spend 10% on housings (Chen, 2011). Second, the residual income approach offers a more precise instrument to identify housing needs and problems, and it also promotes the allocation of housing subsidies in a more efficient and impartial way (Chen, 2011; Kutty, 2005, Stone, 2006). Third, Stone (2006) reasoned that the residual income approach provides a way of refining residential mortgage underwriting that might perhaps yield a more accurate assessment of risk.

However, the major challenge in implementing this approach is establishing the minimum standards of adequacy for non-housing expenditure (Stone, 2006). Theoretically, the social minimum refers to the resources that households need to lead healthy and productive lives in their society (Yang & Shen, 2008). Stone (2006) suggests that “a particular residual income standard is not universal; it’s socially grounded in space

and time". While the expenditure-to-income approach is concerned with what is actually paid, this approach focuses on a household's ability to pay due to its sensitivity to the impact of housing cost on the capacity of the household to meet essential non-housing costs.

2.3.3 Quality Adjusted Approach

Housing affordability is also essentially concerned with the quality of housing and its appropriateness to the households living in it (King, 1994; Karmel, 1995). In studying housing cost within an area, it is common to compare houses of similar conditions and amenities, size, numbers of bedrooms and location. It is also known that households looking for or moving to new housing are forced to make trade-offs between what they actually desire and what they can afford to pay (especially if they are of limited income). This could at times lead to high ratio associated with households with strong preferences for housing. In order to address this limitation of expenditure-to-income ratio (the inability to distinguish between cases with high ratios), Lerman and Reeder (1987) developed the quality based housing affordability measure. The measure was developed based on the cost of appropriate (decent, safe and sanitary) housing as available in the housing market using a hedonic market cost (rents) rather than actual rents. The quality-based measure attempts to distinguish households that have too little income to rent minimally adequate but decent safe housing for less than the specified (30%) of income from households whose income is adequate to bear such costs. Thus, in attempting to quantify those that have quality-based affordability problems, the magnitude of those that have been misclassified as having or not having affordability problems using other affordability ratio could be determined and examined.

The quality-based measure approach implies determining the income levels that distinguish households capable of maintaining an adequate standard of living from those that cannot, thus it could be viewed as an alternative to poverty income threshold.

2.4 REVIEW OF EXISTING HOUSING AFFORDABILITY LITERATURE IN NIGERIA

Despite the fact that the concerns which propelled housing affordability into the limelight of international housing policy discourse are in fact more pressing in the developing countries, much of the growing debate surrounding it is taking place as well as being shaped in the developed countries of Europe and North America.

Extensive search for recent relevant housing affordability or related literature in Nigeria reveals only a handful of studies. Most of the existing works that examined various aspects of Nigerian housing and housing policy orientation were largely influenced by housing need considerations. There are some housing studies with related affordability concerns but cannot be really classified as housing affordability studies per se. These consist of works that focus on the supply of low-cost housing, public/private partnership and sustainable housing delivery, and private sector housing delivery. They include; the studies by Ajanlekoko (2001) which deliberated on the financial and infrastructural implication of sustainable housing development in the country; Ogu and Ogbuozobe (2001) that discussed the implications of housing enablement policy for private sector housing development in the country; and Daramola (2004) that examined private /public participation in housing delivery in the country. Other set of recent related works consist of those that explored the urban residential land accessibility problems and the interface between formal and informal land development processes and its implications for housing policy reforms.

Few works have been directly devoted to housing affordability in Nigeria. These include the works of Chatterjee (1979; 1980; 1982); Agbola (1990a); Oruwari (1994); Adedeji and Olufemi (2004); Aribigbola (2006); Onyike (2007) and Ndubueze (2009). Chatterjee (1982), for instance, developed a quantitative framework to support the contention for targeting of housing strategies for the poor and moderate income households. The study conceived a housing affordability model that analyses the dynamic relationships among income and income distribution, changes in family size, urbanization, housing, consumption, and cost of and access to credit.

In her work, Oruwari (1994) dealt with the issue of the increasing housing affordability problems confronting low-income households in Port Harcourt. The study presented a comparative analysis of housing cost and housing standards by comparing rent levels for different forms of accommodation as well as construction costs and reasonable rates of return between 1980 and 1992. Her analysis showed that it is more economically attractive for private sector developers to provide apartment buildings (i.e. blocks of flats) which are beyond the affordability of low income households than single room tenement housing that overwhelmingly constitute the bulk of low income housing. Thus, whilst the demand for lower income housing was on the increase, the actual low income housing supply within the formal housing market was on the decrease with the study period in Port Harcourt. Consequently, the resultant escalating pressure on low income housing increased occupancy ratio per room, encouraged overcrowding and exacerbated housing affordability problems within low income housing.

Adedeji and Olufemi (2004) provided a discussion on the relationship between planning policies and affordable housing in Nigeria based on their analysis of Abuja masterplanscheme and the re-validation of certificate of occupancy in the city.

In his study, Aribigbola (2006) used the city of Akure to examine the growing problems of housing affordability and the negative impact it has on developing sustainable built environment. The study indicated that a significant proportion of households are faced with housing affordability problems especially with regards to provision of adequate quality of housing. While applying the expenditure to income ratio with 30% rule of thumb, he estimated that about 57 percent of the residents of the city have housing affordability problem. The study argued for policy initiatives and interventions to assist especially low income if affordability in housing is to be properly and adequately addressed.

2.5 CONCLUSION

Having reviewed the different approaches to measuring housing affordability, this study adopts the ratio approach and the residual income approach. The ratio approach was used owing to its simplicity and the fact that it is the most common measure of housing affordability. The residual income, on the other hand, was adopted because it gives a more accurate measure of housing affordability since it's able to determine the impact of housing costs on the residual income of households with the view to assessing their ability to sustain minimum standards of living.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter describes the research methodology and details of the methods employed including the tools of analysis to achieve the research objectives.

3.1 DATA REQUIRED AND SOURCES

The primary data for the study was obtained through field surveys using structured questionnaire and interviews. Reconnaissancesurvey was carried out.

Table 3.1: Types of Data Required and Sources

Type of Data	Data Required	Data Source	Methods of Data Collection
SECONDARY DATA	Literature on housing affordability, measures of affordability	Internet, journals, textbooks, theses, dissertation (published and unpublished)	Literature review
	Base map of Zaria Urban Area	Internet (Google earth),	Satellite imagery,
PRIMARY DATA	Socio-economic characteristics of households. Size of household, employment status, employment type, monthly income, level of education,	Household survey	Interviews and questionnaire
	Housing Housing tenure, house type, amount spent as rent, amount spent on other housing expenditure including	Household survey	Interviews and questionnaire

maintenance, amount spent on non-housing, expenditure, access to basic housing infrastructure (water supply and toilet)
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Source: Author, 2015

3.2 DATA COLLECTION PROCEDURE

3.2.1 Questionnaire Administration

Sample Size and Sampling Procedure

A total of 380 questionnaires were administered within the study area which represents 0.86% of the total number of households. This sample size was adopted based on the calculations and chart provided by Krejcie and Morgan (1970). The chart provides suitable sample size according to any given population.

The study area was clustered based on the four districts; Zaria city, Tudun wada, Sabongari, and Samaru. Systematic random sampling was then used within each of the districts where every tenth household was selected for the study from each of the neighbourhoods. The questionnaires were administered in 26 neighbourhoods. Table 3.2 illustrates districts population and sampling size.

Data on Housing Expenditure

To measure housing affordability using the housing expenditure-to-income ratio, data on housing expenditure was collected from each respondent in each of the 26 districts surveyed using the administered questionnaires. Households were asked to provide the amount (in naira) spent on rent and/or construction maintenance and upgrades, repairs, utilities (electricity, water supply, fuel etc.). The housing expenditure for each household

is arrived at by summing up the various expenditures. Rent is excluded in the case of the ownership tenure group.

Data on non-Housing Expenditure

Households were also asked to provide the amount (in naira) spent on other basic needs, which include nutrition, clothing, fuel, transportation and telecommunication. This was done in order to examine the levels of households' expenditures using their residual incomes.

Data on Household Income

The household income gives an indication of households' economy. It provides an indication on the amount of money available to households for use. The household income was collected during the household survey and was used together with the housing expenditure of each household to compute the housing expenditure-to-income ratio by expressing the housing expenditure as a proportion of income. The ratio is then expressed in percentage. Using the residual income approach, the residual income of each household, after housing expenditure, is matched with their basic non-housing requirement. The non-housing requirement is arrived at by multiplying the minimum non-housing requirement for one person (N 5,000 based on reconnaissance survey in the study area) by the household size. A household is considered housing-cost burdened if its residual income after paying for housing cannot cover its non-housing requirement.

Data on Employment and Household Size

During the household survey, data on employment status and type was collected using the administered questionnaires. This was to examine the level of employment and the

nature of the economic activities in the study area. The household size provides the variation in number of persons in the households.

Table 3.2a: Districts Population and Sampling Size

S N	Local Govt. Area	District	Population (NPC2006)	Projected Population (2015)	Number of Households	Sample Size	Percentage of questionnaires
1.	Sabongari	Sabongari & Samaru	286,871	390,976	65,163	144	38
2.	Zaria	Zaria & Tudun Wada	408,198	556,332	92,722	236	62
Total			695,069	947,308	157,885	380	100

Source: Adopted from Alhassan, 2011

Average no. of persons per household in the study area is assumed to be six.

Table 3.2b: Questionnaire administration within neighbourhoods

District	Neighbourhood	No. of Questionnaires Administered	No. of Questionnaires Retrieved
Sabon Gari	Chikaji	19	18
	Muchiya	19	18
	Hayin Ojo	18	18
	Anguwa Gwado	18	18
	Hanwa	18	18
	Dogarawa	18 (110)	16 (106)
Samaru	Hayin Danyaro	4	4
	Samaru	5	5
	Hayin Dogo	5	5
	Layin Zomo	5	4
	Kabama Layout	5	4
	Basawa	5 (29)	5 (27)
Zaria City	Gwargwaje	14	13
	Lowcost	14	12
	Kusfa	14	13
	Kaura	14	13
	Kwarbai	17	12
	Ban Zazzau	14 (87)	10 (73)
Tudun Wada	Gyellesu	19	18
	Tudun Wada	21	18
	Magume	19	18
	Gaskiya	19	18
	Tukur Tukur	19	18
	Dan-Magaji	19	18
	Wusasa	19	17
	Unguan Kaya	19 (154)	17 (142)
Total		380	348

Source: Author, 2015

3.2.2 Interview

Households were interviewed to obtain more qualitative data on housing affordability, which supplemented the data collected using questionnaires. Property owners (landlords) were also interviewed in order to collect information on rentsrepayment experiences.

3.3 METHOD OF DATA ANALYSIS AND PRESENTATION

3.3.1 Tools for Data Analysis

Processing of data collected involved the use of SPSS and Ms Excel for computation of frequencies, and for correlation analysis. A GIS software (ArcGIS 10.1) was used for processing and presentation of maps. Data is presented using tables, figures, plates, maps, and charts. Table 3.3 presents the summary of tools used for data analysis.

Table 3.3: Summary of Tools for Data Analysis and Method of Data Presentation

Data Required	Method of Data Collection (Field Survey)	Tool for Data Analysis	Method of Data Analysis and Presentation
Socio-economic characteristics: Size of household, employment status, employment type, monthly income, level of education.	Questionnaire administration to households	SPSS, MS Excel	Frequencies & percentages, tables figures and charts
Housing: Housing tenure, house type, amount spent as rent, amount spent on housing expenditure including maintenance, amount spent on non-housing, expenditure, access to basic housing infrastructure.	Questionnaire and Interview	SPSS, MS Excel	Frequencies & percentages, tables figures, charts and maps, Correlation and multiple regression

Source: Author, 2015

Correlation Analysis

The Pearson's correlation analysis was used to test the strength of the relationship between housing affordability and the household economic variables - income, housing expenditure and household size. A high correlation (close to 1) value suggests that there is a strong relationship between variables while a low correlation (close to 0) value means that the relationship is weak. Before running the Pearson's correlation analysis in SPSS, the data collected from the field survey were checked to ensure that the assumptions of the Pearson's correlation were met. This is to ensure that the result obtained from the analysis is valid. Therefore, it was ensured that data were continuous and that there was a linear relationship between the data. This was achieved by creating scatter plots in SPSS. The data were also checked for significant outliers. Finally, the data were checked for normality using histograms and Q-Q plots. Variables that were found not to be normally distributed after the test were transformed using Log10 function in SPSS. The transformed data were then used in the final analysis.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.0 INTRODUCTION

This section presents the research findings, analysis and inferences. The section is organized into five parts. The first part provides the nature of housing development in Zaria urban area. The second part presents the socio-economic characteristics of the respondents. The third part provides information on housing in Zaria, which includes information on housing type and housing tenure. The fourth part deals with measuring housing affordability in Zaria. The fifth presents the perception of respondents on housing improvement in Zaria.

4.1 NATURE OF HOUSING DEVELOPMENT AND OTHER LAND USES IN ZARIA URBAN AREA

Zaria Urban Area is an institutional town mainly characterized by the Sokoto-Kaduna and Zaria-Kano roads. Over time, the four urban districts of Zaria have emerged along these roads and around institutional settings, which have served as the focal point of development. These districts; Samaru, Sabongari, Tudun wada, and Zaria city have since witnessed spatial growth in accommodating the increasing population.

Public land use occupies more land in the area taking up to 41% of the land area. While residential development (second largest land use) occupies 39% of the total land area. Circulation accounts for 17.8% and commercial use 2%. Open spaces and recreational land uses occupy 0.5% of the total land area, and industrial land use, 0.3%. The PZ-GRA is the commercial nerve centre of the town and has a high concentration of wholesale and retail commercial activities.

4.1.1 Samaru District

Samaru district owes its development to the establishment of Federal Government institutions including Ahmadu Bello University, National Institute for Leather and Science Technology and the Nigerian College of Aviation. The district is made up of eight neighbourhoods, which include Samaru, Hayin Dogo, Hayin Danyaro, Layin Zomo, Palladan, Kabama and Zangon Shanu. Samaru is the largest of all neighbourhoods and was originally conceived as gridiron. However, recent developments do not conform to such pattern. Commercial activities take up space along major streets. The market is located south-west of the area. On the northern part is Hayin Dogo, which developed as an informal settlement across the rail. Palladan and Layin Zomo have high-density developments. Kabama and Unguwan Yusi are recently formed neighbourhoods.

4.1.2 Sabon Gari District

Sabon Gari was a British colonial establishment to provide accommodation for migrants from the southern parts of the country. It is an industrial hub and has the largest market of the five districts. Six neighbourhoods make up the district: Dogarawa, Hayin Ojo, Kwangila, Muchia, Chikaji and Sabongari. Owing to the numerous commercial activities that take place in the district and the dense population, especially in Muchia and Sabongari, it is very common to find mixed development.

4.1.3 Tudun Wada District

Tudun Wada District lies between Zaria city and Sabongari. Its historical growth owes much to the employment opportunities offered by the Institute of Administration and the Federal College of Education, situated at Gyallesu, and the Nuhu Bamali Polytechnic annex at Gaskiya. The district is made up of five neighbourhoods: Gyallesu, Tudun Jukun, Tudun Wada, Tukur Tukur and Wusasa. Tudun Wada is the largest of its

neighbourhoods and has the highest development density. High concentration of commercial activities are found around the Tudun Wada market, and Kofar Doka. Gyallesu is the neighbourhood with some semblance of planning and has the Kongo campus of ABU and the FCE. Wusasa lies to the southwest and has low-density development. Very little commercial activities exist. Tudun Jukun exhibits a grid iron pattern of development and is densely built with commercial activities found predominantly along Shehu Idris Road, Emir Road and Gaskiya layout. Gonan Ganye layout, Tsallaken Dogo and Gabari Karama are recent additions to Tudun Jukun in the western and eastern parts. The third neighbourhood Tukur Tukur which lies to the south is haphazard and a medium density development.

4.1.4 Zaria City District

Zaria city is the residential quarter of the indigenous population. It is home of the emirate council. The four neighbourhoods in the district are Kwarbai, Kaura, Iya, and Unguwan Juma. Both high density and low-density developments can be found in the area. While high-density developments are found at the inner core of the city, low-density developments are found at the peripheral areas. The dwelling units are generally in the form of traditional compounds, which are built with mud. The city consists of a radial growth pattern formed within an enclosing traditional wall. In many parts of the area, vehicular movement is difficult due to narrow roads that are mostly not tarred. Infill development has become very common in the area. The city market, which is the second largest in the town after Sabongari, is situated at the centre of the walled city.

4.2 SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS

4.2.1 Level of Education

Table 4.1 reveals that majority of the respondents in the study area have attained tertiary education. Only 10.9% of the respondents have not attained up to secondary education. Education influences economy, since the level of education largely determines employment type, which in turn influences income level.

Table 4.1: Level of Education

Level of education	No. of respondents	Percentage of respondents
Primary	38	10.9
Secondary	88	25.3
Tertiary	222	63.8
Total	348	100.0

Source: Field survey, 2015

4.2.2 Employment Status

From table 4.2, it can be seen that most of the respondents in the study area (90.2%) are employed while only 9.8% are unemployed. During the survey, it was observed that most of the unemployed are newly formed households.

The result indicates that a large proportion of the residents engage in at least one form of economic activity in the study area and therefore earn income.

Table 4.2: Employment Status

Employment Status	No. of respondents	Percentage of respondents
Employed	314	90.2
Unemployed	34	9.8
Total	348	100

Source: Field survey, 2015

4.2.3 Employment Type

The data presented in and figure 4.1 indicates that a greater percentage of the respondents (61.2%) in the study area are employed in the informal sector. From table 4.3 it can be seen that Zaria city and Tudun Wada have the highest percentage of respondents in the informal economy (71.2% and 64.1% respectively). The data from the table implies that 81% of the respondents are employed by the private sector. While only 19% of the respondents are employed by the public sector with most of them staying in Samaru and Tudun Wada (29.6% and 22.5% respectively).

The high percentage of respondents in the informal sector suggests that most households rely on small-scale businesses, which normally give little return in most cases. Therefore, household income is low. This can significantly affect housing and non-housing expenditure.

Table 4.3: Employment Type by District

District		Employment Type			
		Informal	Formal (private)	Formal (public)	Total
Samaru	No. of respondents	16	3	8	25
	% of respondents	59.3	11.1	29.6	100.0
Tudun Wada	No. of respondents	91	19	32	142
	% of respondents	64.1	13.4	22.5	100.0
Zaria	No. of respondents	52	12	9	73
	% of respondents	71.2	16.4	12.3	100.0
Sabongari	No. of respondents	54	35	17	106
	% of respondents	50.9	33.0	16.0	100.0

Source: Field survey, 2015

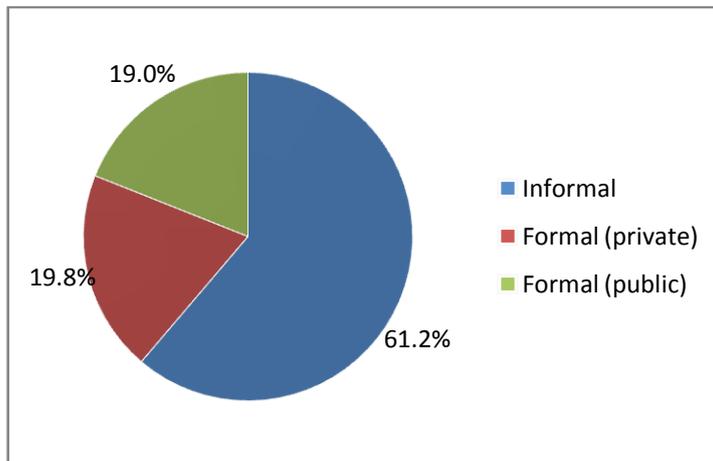


Figure 4.1: Employment Type

Source: Field survey, 2015

4.2.4 Household size

The result, as seen in table 4.4, shows that 47.1% of the respondents have household size of more than eight persons, while 3.4% of the respondents have household size of less than four persons.

The household size can affect the wellbeing of the household. This is so because the household size determines the level of non-housing expenditure. Factors that influence the choice of family size in the area include income level, ethnicity, religion, health, and level of education. Large household sizes in the study area means that there will be greater needs to be met among households. A small family size may likely enjoy better lifestyles including better health care, education and a general social wellbeing. On the other hand, a large household after paying for housing will have inadequate income for non-housing expenditure. Alternatively, they may devote their income to non-housing expenditures which leaves them with inadequate income for housing. This can lead to more problems such as eviction or arrests.

Table 4.4: Household size

Household size	No. of respondents	Percentage of respondents
Below 4	12	3.4
4 - 6	61	17.5
7 - 8	111	31.9
over 8	164	47.1
Total	348	100.0

Source: Field survey, 2015

4.2.5 Household Income

During the survey, the result obtained as shown in table 4.5 indicates that 22.1% of the respondents earn monthly income of less than ₦ 20,000 and only 8.3% earn more than ₦80, 000. The remaining 69.5% of the respondents earn between ₦20, 000 and ₦80, 000.

The result in table 4.5 shows that a large proportion of the households are low-income earners. And since income largely and directly determines the purchasing power of households, this will affect the extent of their expenditure on housing.

Table 4.5:Income level of respondents

Income range (₦)	No. of respondents	Percentage of respondents
Less than 20,000	77	22.1
20,001 - 40,000	97	27.9
41,001 - 60,000	100	28.7
60,001 - 80,000	45	12.9
More than 80,000	29	8.3
Total	348	100

Source: Field survey, 2015

4.3 HOUSING CHARACTERISTICS

4.3.1 HOUSING TYPES

Three main house types were identified and used in the study. These are; single room tenement house type, flats, and detached and semi-detached house type as shown in figure 4.2.

4.3.1.1 Single Room Tenement House Type

The single room tenement house type makes up a significant proportion of house types in the study area as observed in the survey. As shown in figure 4.2, it makes up about 35.1% of the entire urban residential housing stock in the study area. There are two types-the storey type, and the bungalow type as shown in plate I and plate II respectively. The bungalow tenement building found in the study area has an average of eight to nine rooms, with a central passage that leads into an inside courtyard defined by detached common kitchen, toilets/baths. The storey building type normally has a kitchen, toilets/baths on each floor of the building. This building type is mainly prominent in high-density neighbourhoods and in most cases of low quality in terms of construction material and basic infrastructure. Although they are designed as single room accommodation for households, it is a common practice for households to occupy more than one room depending on their level of affordability.

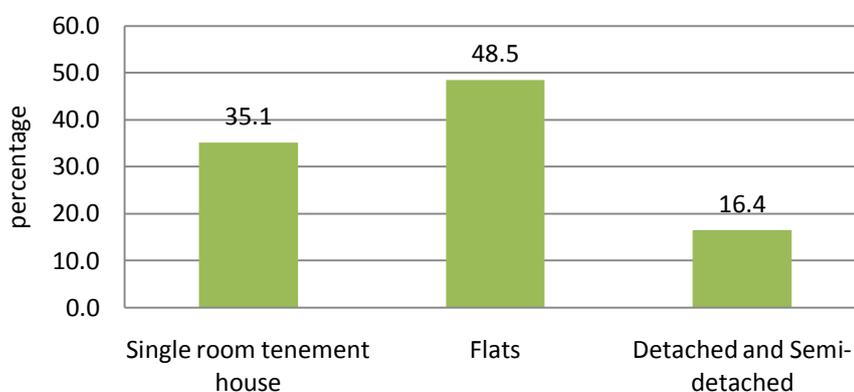


Figure 4.2: Distribution of House Types in the Study Area



Plate I: A single room house type (storey) in Samaru

Source: Field survey, 2015

Plate II: Courtyard of a Single room house type (bungalow) in Hayin Dogo

Source: Field survey, 2015

4.3.1.2 Flats

This building type makes up the largest proportion of house types in the study area. It makes up about 48.5% of the total house types in the study area as presented in figure 4.2. They are mostly made up of two to three floors of two self-contained flats per floor with two or threerooms making up each apartment.



Plate III: A 3-storey building with two flats on each floor at Samaru

Source: Field survey, 2015

4.3.1.3 Detached and Semi-Detached House types

The detached House type has been used in this study to describe single self-contained family bungalows. The number of rooms in this house type range from two to four. The semi-detached type is basically 2-family building, usually constituting of adjacent twin structures, with each section designed to be independent of each other while sharing a common compound, which in most cases may be partitioned with a low wall. This house type makes up only about 16.4% of the entire residential housing stock in the study area. The semi-detached house type is shown in plate IV.



Plate IV: A semi-detached house type at Tudun Wada

Source: Field survey, 2015

Table 4.6: House type occupied by respondents based on number of rooms

No. of rooms	No. of respondents	Percentage of respondents
One room	113	32.5
Two rooms	98	28.2
Three rooms	91	26.1
Four rooms and above	46	13.2
Total	348	100.0

Source: Field survey, 2015

The result in table 4.6 shows that 32.5% of the respondents in the study area stay in houses with one room. While only 13.2% of the respondents stay in houses with more than three rooms.

4.3.2 HOUSING TENURE TYPE

Three categories of housing tenure type were identified in the study area during field survey; owner-occupier, rented, and rent-free.

4.3.2.1 Ownership Tenure

It is observed from figure 4.3 that the ownership tenure group constitutes the largest group in the study area taking up 55.5% of total households. The ownership tenure is particularly prevalent in informal housing areas where most of the residents provide their own housing. The development is usually high-density. This tenure group forms the bulk of housing tenure type in traditional settlements such as Zaria City and Tudun Wada. Table 4.7 shows the housing tenure type by district.

Owing to the low financial status of most of these households, there is great financial stress in the provision and maintenance of their basic housing infrastructure.

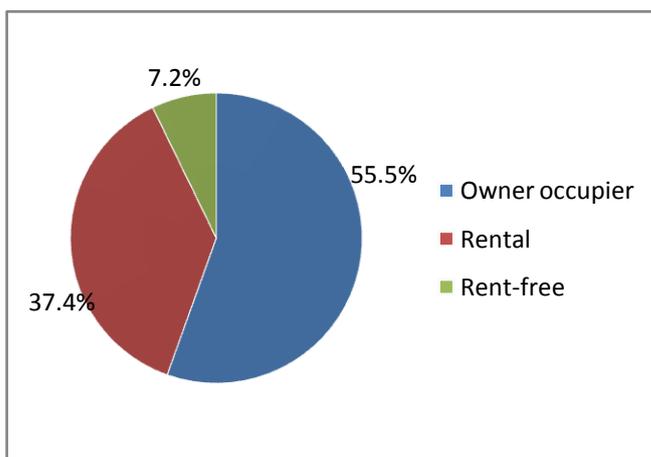


Figure 4.3: Tenure type in the study area

Source: Field survey, 2015

Table 4.7: Housing Tenure Type by District

District		Tenure Type			Total
		Owner occupied	Rented	Rent-free	
Samaru	No. of respondents	16	8	3	27
	% of respondents	59.3	29.6	11.1	100.0
Tudun Wada	No. of respondents	91	43	8	142
	% of respondents	64.1	30.3	5.6	100.0
Zaria	No. of respondents	63	7	3	73
	% of respondents	86.3	9.6	4.1	100.0
Sabongari	No. of respondents	23	72	11	106
	% of respondents	21.7	67.9	10.4	100.0

Source: Field survey, 2015

4.3.2.2 Rental Tenure

The rental tenure group constitutes the next large housing tenure in the study area. They make up about 37.4% of households. The rental tenure is particularly prevalent in high and medium density neighbourhoods.

The flat house type is the most dominant housing type within the rental tenure group, constituting 56.1% of the total. The single room house type makes up 30.8% of houses under the rental tenure as shown in table 4.8.

Table 4.8: Cross-tabulation of Housing Tenure and House Type

House Type	Housing Tenure		
	Owner Occupied(%)	Rented(%)	Rent-free(%)
Single Room	32.1	30.8	80.0
Flats	47.2	56.1	20.0
Detached and Semi-detached	20.7	13.1	0
Total	100	100	100

Source: Field survey, 2015

4.3.2.3 Rent-free Tenure

Rent-free tenure group constitutes about 7.2% of households in the study area. The tenure includes housing arrangements where members of family or friends are given access to housing without payment. They may also be in the form of inherited family housing where family beneficiaries live without paying rent. Under this tenure the single room house type, overwhelmingly dominates other house types with 80% while flats make up 20% as presented in table 4.8.

4.3.2.4 Distribution of Rent by District

Table 4.9 below presents the average annual rent for the different housing types by districts. It can be seen that the average annual rent per room is highest in Samaru and lowest in Sabongari. The disparity in rent is attributed to the variation in the value of land in the area. The choice of location which directly affects the amount paid as rent can have significant impact on housing affordability and economy of the rental tenure group. This is so because higher rents mean that higher proportion of income will be expended on housing. Lower rent on the other hand suggests that households have more residual income to spend on non-housing needs which include education, health and nutrition.

Table 4.9: Average Annual Rent by District

Type	No. of Rooms	Average Annual Rent (₦)			
		Samaru	Tudun wada	Zaria City	Sabongari
Single room	1	50,000	45,000	42,000	40,000
Flats, detached and semi-detached	2	120,000	100,000	95,000	80,000
	3	165,000	150,000	135,000	120,000
	4	220,000	200,000	170,000	160,000

Source: Field survey, 2015

4.3.3 BASIC HOUSING INFRASTRUCTURE

4.3.3.1 Toilet type

It is apparent from table 4.10 that the most common type of toilet in the study area is the pour-flush taking up about 39.9%. The water closet and the pit latrine constitute about 37.4% and 17.5% respectively. The pit latrine is the predominant type in the traditional areas and in owner-occupied housing.

Table 4.10: Types of toilet

S. No.	Toilet type	No. of respondents	Percentage of respondents
1	Pour-flush	139	39.9
2	Water closet	130	37.4
3	Pit latrine	61	17.5
4	others	18	5.2
	Total	348	100.0

Source: Field survey, 2015

4.3.3.2 Level of satisfaction with toilet types

The level of satisfaction gives an indication of the adequacy of toilet type provided within houses in the study area. The result as shown in figure 4.4 indicates that most of the households (60 out of 139) that use the pour-flush toilet type, which is the most common in the study area, are very satisfied with it. While about 22% and 15% are dissatisfied and very dissatisfied respectively.

A higher percentage (63%) of water closet in their houses are very satisfied. While only 20% and 7% are dissatisfied and very dissatisfied respectively, as shown in figure 4.5.

The data presented in figure 4.6 shows that 23% and 9% of the respondents that have pit latrine in their homes are satisfied and very satisfied respectively, while 19% and 11% are dissatisfied and very dissatisfied respectively.

It was observed during survey that majority of those who were dissatisfied or very dissatisfied with any toilet type are renters.

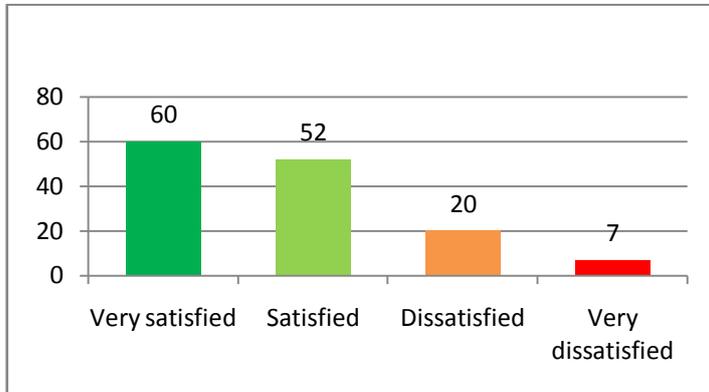


Figure 4.4: Satisfaction with pour-flush

Source: Field survey, 2015

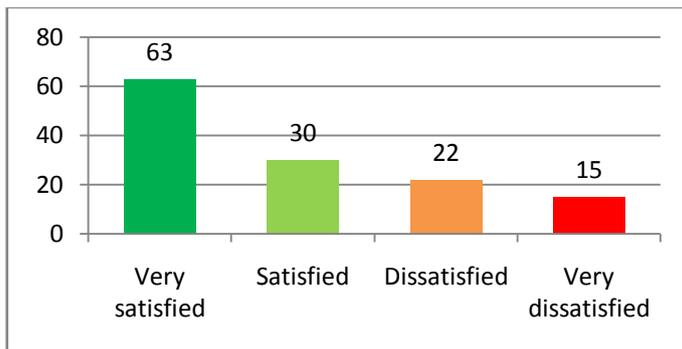


Figure 4.5: Satisfaction with water closet

Source: Field survey, 2015

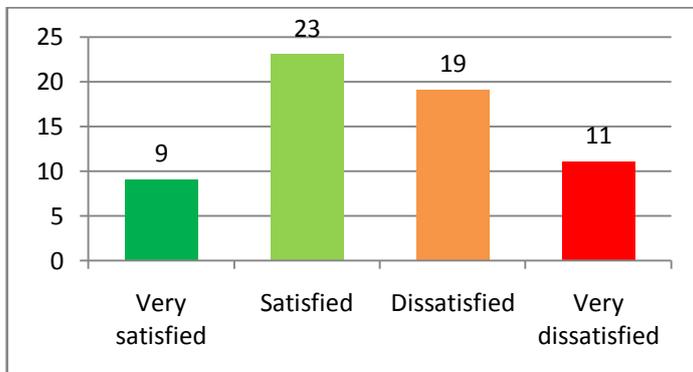


Figure 4.6: Satisfaction with pit latrine

Source: Field survey, 2015

4.3.3.3 Sources of water

The result, as shown in table 4.11, indicates that majority of the respondents (51.1%) have wells within their houses and these serve as their primary source of water for domestic use. 14.9% have boreholes as their main source of water, while 17% rely on carts for their water supply. This therefore, reveals that only a small percentage of the respondents have access to pipe borne water in their houses.

Table 4.11: Sources of water

S. No.	Source of water	No. of respondents	Percentage of respondents
1	Well	178	51.1
2	Pipe borne water	59	17.0
3	cart	59	17.0
4	Borehole	52	14.9
	Total	348	100.0

Source: Field survey, 2015

4.3.3.4 Adequacy of Water from Sources

From figure 4.7, it can be seen that 35 out of 59 respondents that have pipe borne water are very dissatisfied. While only 3 and 9 respondents are very satisfied and satisfied respectively. This can be attributed to the inconsistency and insufficiency of the supply observed in the study area.

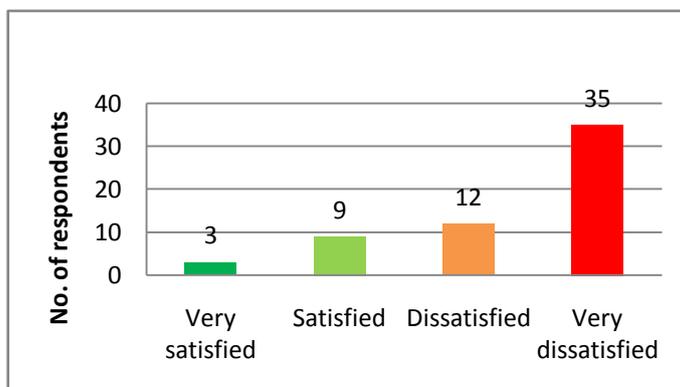


Figure 4.7: Satisfaction with pipe borne water supply

Source: Field survey, 2015

From figure 4.8 it can be seen that 20 out of 52 respondents that have borehole water supply are very satisfied, while only 6 respondents were dissatisfied.

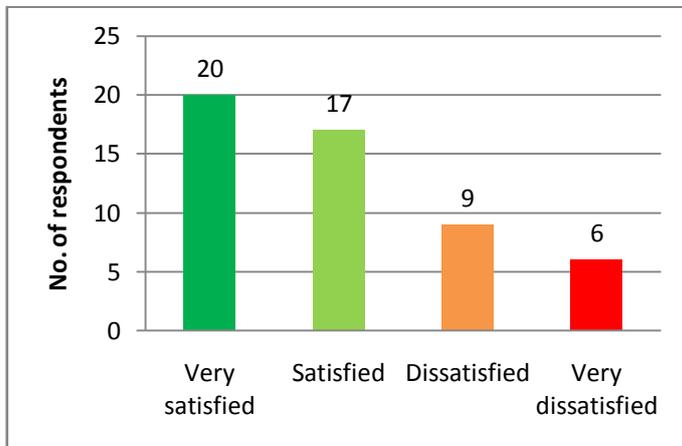


Figure 4.8: Satisfaction with borehole water supply

Source: Field survey, 2015

Figure 4.9 shows that 95 out of 178 respondents were satisfied with well water supply, 51 were very satisfied, while only 11 respondents were very dissatisfied.

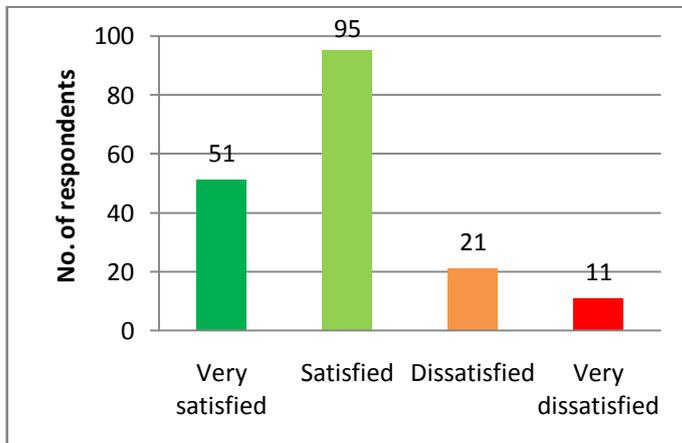


Figure 4.9: Satisfaction with well water supply

Source: Field survey, 2015

The data in figure 4.10 shows that 31 out of 59 respondents in the study area were very satisfied with cart water supply, 10 respondents were dissatisfied, while 11 respondents were very dissatisfied.

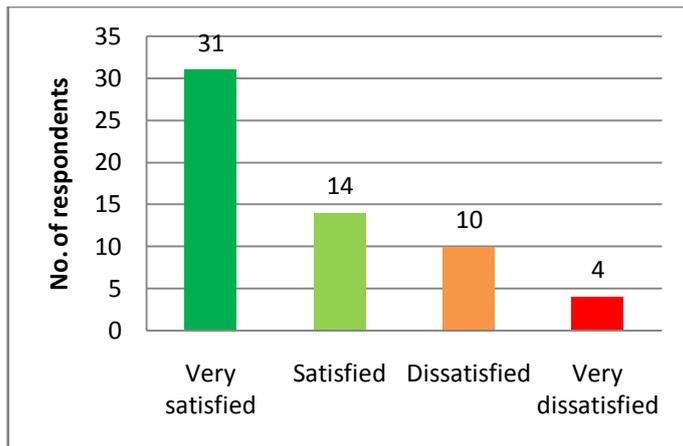


Figure 4.10: Satisfaction with cart water supply

Source: Field survey, 2015

4.4 MEASURING HOUSING AFFORDABILITY

4.4.1 Using Expenditure to Income Ratio Approach

The Expenditure-to-Income Ratio gives an indication of the level of housing affordability in the study area. More specifically, it reveals the percentage of income spent by households on housing. Spending more than 30% of income on housing is considered cost burdened.

Table 4.12: Housing Expenditure to Income Ratio in the study area

Expenditure to Income ratio	No. of respondents	Percentage of respondents
0-5%	11	3.2
6-10%	8	2.3
11-15%	20	5.7
16-20%	30	8.6
21-25%	44	12.6
26-30%	52	14.9
Over 30%	183	52.6
Total	348	100.0

Source: Field survey, 2015

The result from table 4.12 reveals that 47.4% of the respondents spend 30% or less on housing expenditure while 52.6% of the respondents spend over 30% of their monthly income on housing. This indicates that most of the respondents in the study area are likely to face difficulty in affording other necessities (non-housing) such as food and medical care. This can significantly affect the social and economic wellbeing of such households, as they are unable to meet other basic needs. This could also deter such affected households from any meaningful economic activities in the area, which can directly affect the economic development in the area.

Table 4.13: Mode of Acquisition of House for the Owner-occupied Housing Tenure Group

S/N	Mode of Acquisition	No. of Respondents	Percentage of Respondents
1.	Self-Built/inherited	120	64.9
2.	Purchase (Outright)	11	5.9
3.	Purchase (Down payment)	32	17.3
4.	Hire purchase	22	11.9
	Total	185	100.0

Source: Field survey, 2015

Table 4.13 presents the mode of acquisition of housing for the owner-occupied tenure group. Households who built their own houses using personal savings and/or funds from family and friends under this tenure make up 64.9%. Those who purchased either outright or with down payment make up 23.2%. Hire purchase category makes up the remaining 11.9%.

The result from the table implies that majority of the households under the owner-occupied housing tenure in the study area built their houses. This group of homeowners form the bulk of households in the traditional and informal settlements. Zaria City, Hayin Dogo, Hayin Danyaro are good examples of such areas. Observations during the field survey show that they are mostly low-income earners with large family sizes. Housing acquired through hire purchase can be found in some neighbourhoods in Zaria City - Banzazzau, low-cost.

Table 4.14: Housing Affordability for Owner-occupied (Self-build) Housing Tenure Group

Expenditure-to-Income ratio	No. of respondents	Percentage of respondents
0-5%	5	4.5
6-10%	3	2.7
11-15%	6	5.5
16-20%	7	6.4
21-25%	10	9.1
26-30%	13	11.8
Over 30%	66	60.0
Total	110	100.0

Source: Field survey, 2015

Table 4.15: Housing Affordability for Rental Housing Tenure Group

Expenditure to Income ratio	No. of respondents	Percentage of respondents
0-5%	4	2.9
6-10%	5	3.6
11-15%	10	7.2
16-20%	16	11.6
21-25%	18	13.0
26-30%	20	14.5
Over 30%	65	47.1
Total	138	100.0

Source: Field survey, 2015

The ownership tenure group who were the prevalent tenure group in the study area with about 55.5% (figure 4.3, p.46) of total households have the most housing affordability problems. The result in table 4.14 shows that about 60.0% of

homeowners in the study area have housing affordability problems. The group recorded the highest housing expenditure and household size while not living in the best housing. These findings are particularly interesting because they oppose the conventional conception that homeowners are mostly well-off individuals who do not pay but rather receive rents for their housing and therefore have little or no housing affordability problems. The study revealed that the ownership tenure group has pressing housing affordability problems. The study has therefore shown the housing affordability predicament of the homeowners in the study area contrary to conventional notion.

Furthermore, findings show that the single room house type that makes up as much as 35.1% (figure 4.2, p. 43) of housing in the study area falls under the ownership tenure. This house type is common in low-income neighbourhoods and informal settlements, and therefore likely to explain the poor housing environment of the ownership tenure group. Moreover, homeowners in the study area are comparatively made up of larger household sizes, which affect the basic non-housing expenditure of this tenure group as shown in table 4.16.

The rental tenure is the next important tenure group in the study area with about 37.4% of the households. About 47.1% of the households under this group, as shown in table 4.15 above, have housing affordability problems compared to the 60.0% of the owner-occupied group. Therefore, findings suggest that households under this housing tenure have less housing affordability problems.

Findings as presented in figure 16 indicate that Sabongari district has the highest proportion of households with housing affordability problems in the study area, while Samaru district recorded the lowest proportion of households with housing affordability problems.

4.4.2 Using Residual Income Approach

Unlike the expenditure-to-Income approach, the residual income approach takes into consideration the income of households after housing expenditure and the differences in household composition. Here a household is considered cost burdened if after housing expenditure it cannot meet its basic non-housing needs.

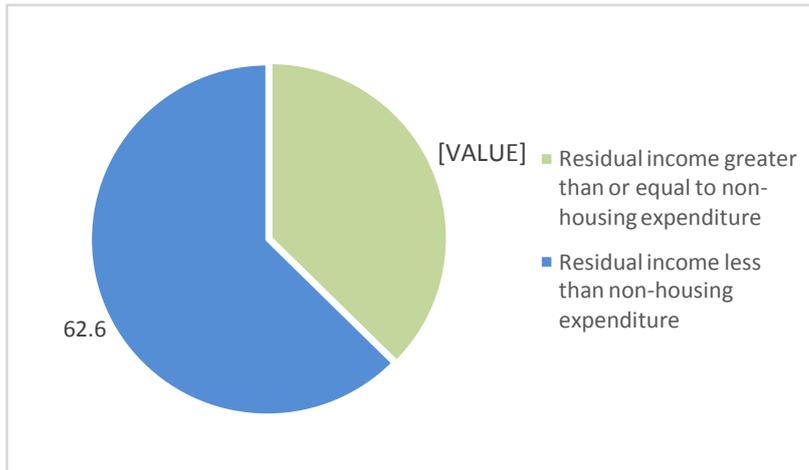


Figure 4.11: Housing Affordability in the study area (residual income approach)

Source: Field Survey, 2015

The result from figure 4.11 reveals that about 62.6% of households in the study area have residual incomes that are lower than their basic non-housing expenditure. While about 37.4% of the households have residual incomes greater than or equal to their basic non-housing expenditures. This implies that about 62.6% of households have housing-cost burden.

The result varies from that obtained using the expenditure-to-income approach. Using the residual income approach some households that were formerly considered as housing-cost burdened (using the expenditure to income ratio) now do not fall under the cost burdened category. This is because though such households spend over 30% of their income on housing, they are able to meet their basic non-housing needs using their residual income. However, there are many more households that were previously

categorized as having no housing affordability problems (using the expenditure to income approach) but now fall under the housing-cost burdened group. These households are unable to meet their basic non-housing needs using their residual incomes even though their expenditure-to-income ratios were below 30%. The findings suggest that the expenditure to income ratio underestimated the actual extent of economic deprivation for many of the households in the study area.

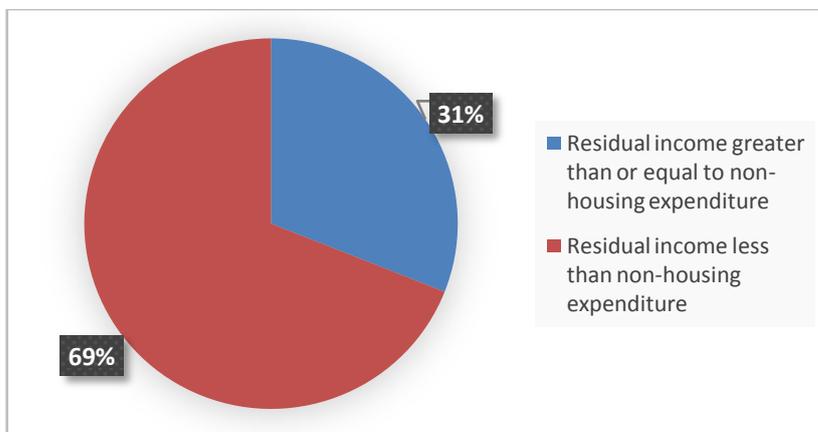


Figure 4.12:Housing Affordability for Owner-occupied Housing Tenure

Findings from the survey as presented in figure 4.12 show that 69% of households fall under the housing cost burdened category using the residual income approach. While only 31% of the households in the study area have residual incomes greater than their basic non-housing expenditure.

The result implies that 69% of households are unable to afford basic non-housing needs with their residual income after paying for housing. The result shows an improvement in the rental housing affordability in the area when compared with the result obtained using the expenditure-to-income ratio.

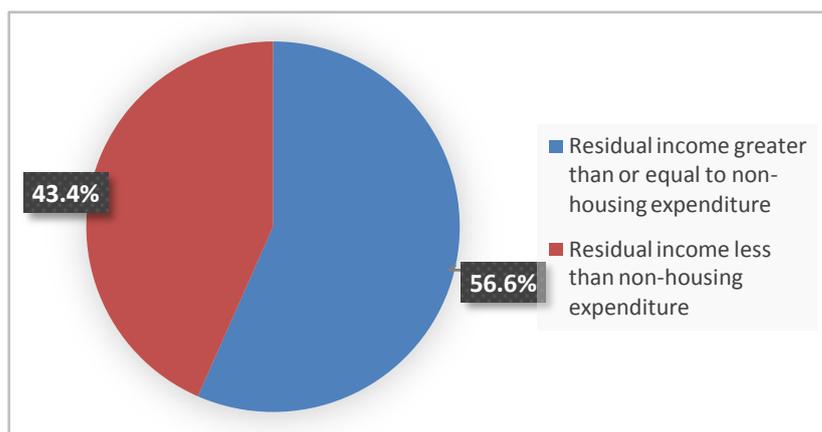


Figure 4.13: Housing Affordability for Rental Housing Tenure

The findings as shown in figure 4.13 show that 43.4% of the households under the rental housing tenure have residual incomes that are greater than their basic non-housing expenditures, while 56.6% have residual incomes that are less than their basic non-housing expenditure.

The findings suggest that 56.6% of the households under the rental housing tenure are able to meet their basic non-housing needs after housing expenditure.

Table 4.16: Monthly Basic Non-Housing Expenditure based on Housing Tenure Group

Non-Housing expenditure	Owner-occupied		Rental		Total no. of respondents	Total Percentage of respondents
	No. of respondents	Percentage	No. of respondents	Percentage		
< 3000	16	8.6	10	7.2	26	8.0
3001-6000	25	13.5	14	10.1	39	12.1
6001-9000	42	22.7	22	15.9	64	19.8
9001-12000	38	20.5	47	34.1	85	26.3
>12000	64	34.6	45	32.6	109	33.7
Total	185	100.0	138	100.0	323	100.0

Source: Field survey, 2015

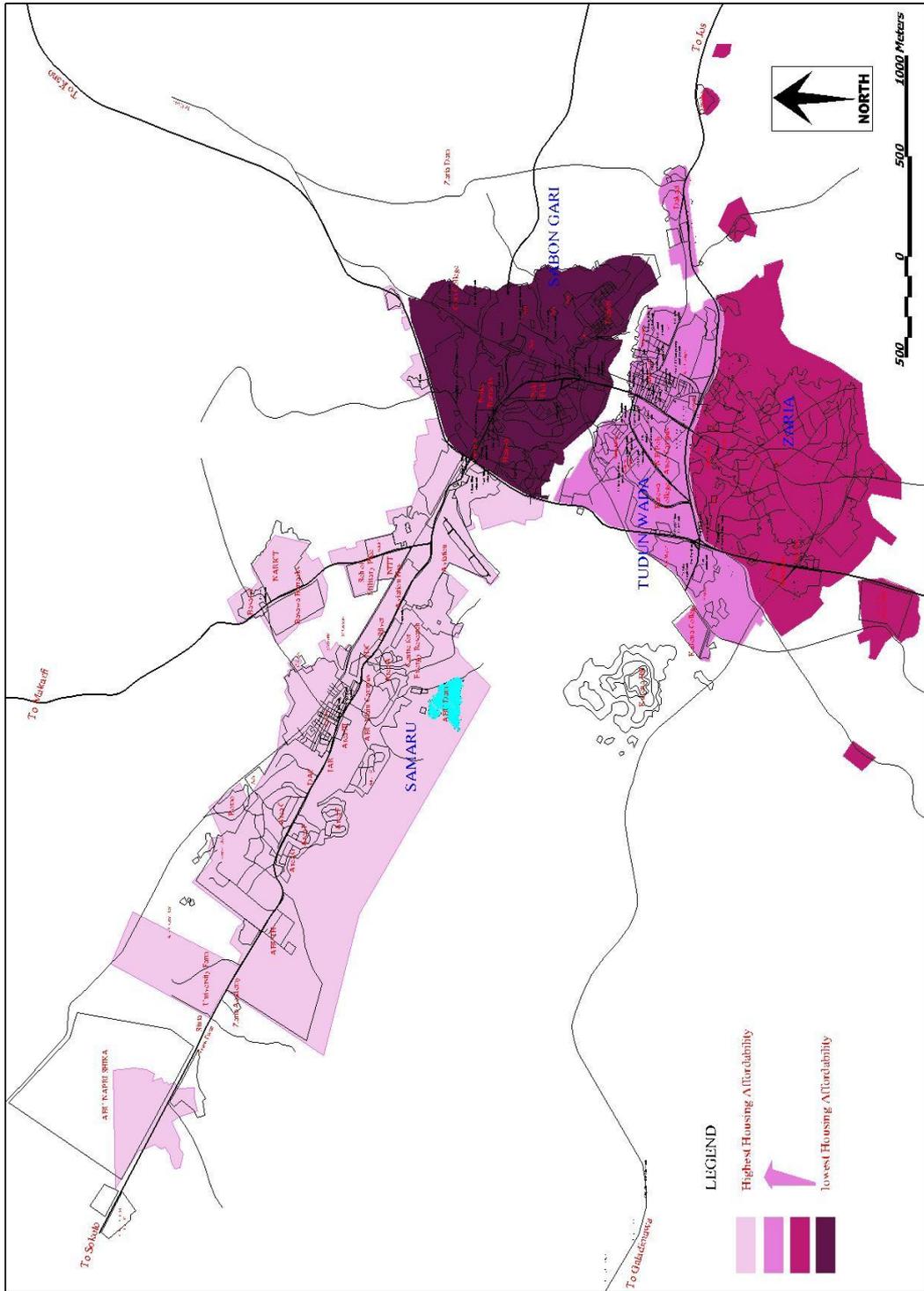


Figure 4.14: Pattern of Housing Affordability by Districts in Zaria Urban Area (using ratio approach)

Source: Field survey, 2015

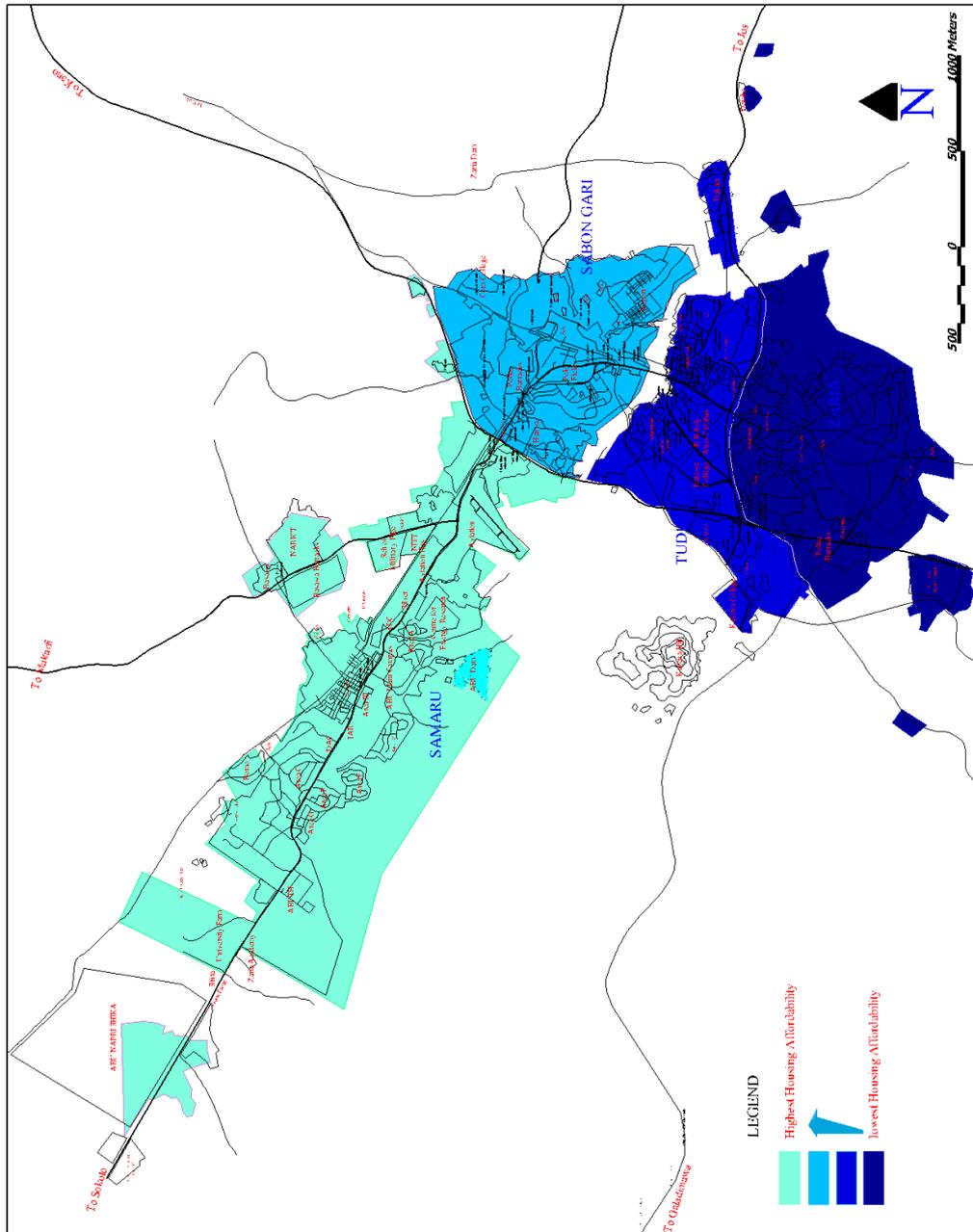


Figure 4.15: Pattern of Housing Affordability by Districts in Zaria Urban Area (using residual income approach)

Source: Field survey, 2015

4.5 STATISTICAL ANALYSIS OF RELATIONSHIPS

4.5.1 Testing for association between Housing Affordability and Household Economic Variables

The aim here is to ascertain the strength of association between housing affordability, household income, housing expenditure and household size.

4.5.1.1 Normality test

The histogram and normal Q-Q plot of housing affordability as shown in figure 4.16 and figure 4.17 respectively, indicate that the variable housing affordability has a fairly normal distribution and can be directly subjected to the Pearson's correlation.

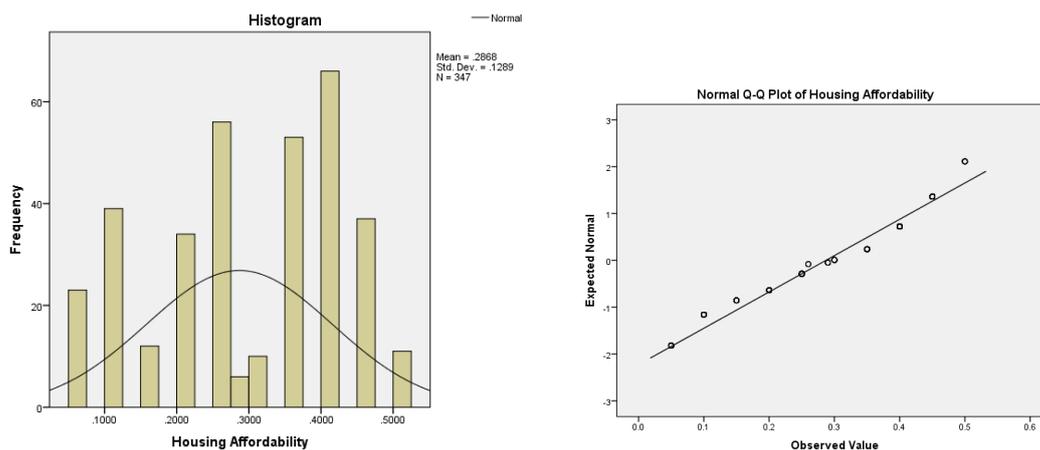


Figure 4.16: Histogram of Housing Affordability **Figure 4.17: Q-Q Plot of Housing Affordability**

Source:Field survey, 2015

Source:Field survey, 2015

Figure 4.18 and figure 4.19 show the histograms of housing expenditure and transformed housing expenditure variables respectively. The transformed variable (Tr_Hex) was used in the correlation analysis. Figure 4.20 presents the Q-Q plot of the transformed Housing Expenditure variable (Tr_Hex).

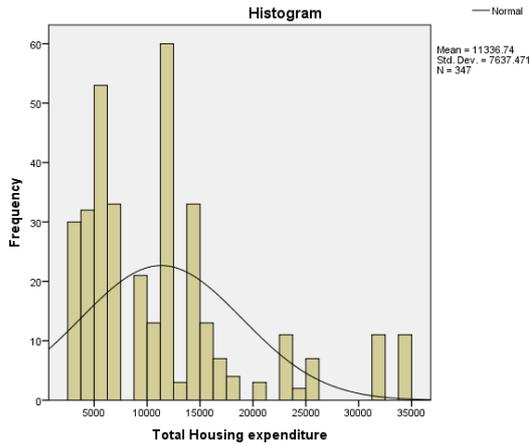


Figure 4.18: Histogram of Housing Expenditure

Source:Field survey, 2015

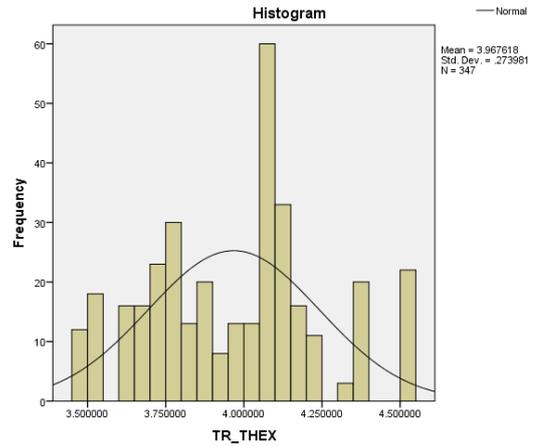


Figure 4.19: Histogram of Transformed Housing Expenditure (Tr_Hex)

Source:Field survey, 2015

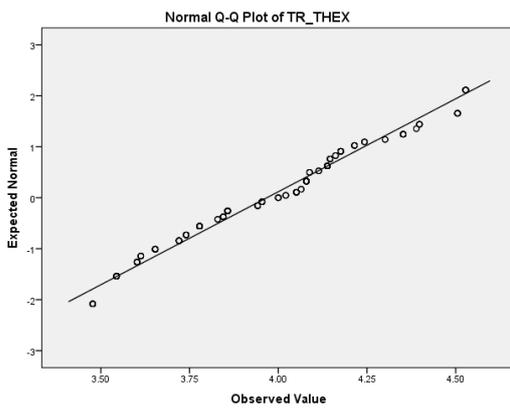


Figure 4.20: Q-Q Plot of Transformed Housing Expenditure

Source:Field survey, 2015

The histograms of income and transformed income (Tr_Inc) are presented in figure 4.21 and figure 4.22 respectively. The transformed data has a fairly normal distribution. The Q-Q plot of transformed income variable (Tr_Inc) is presented in figure 4.23.

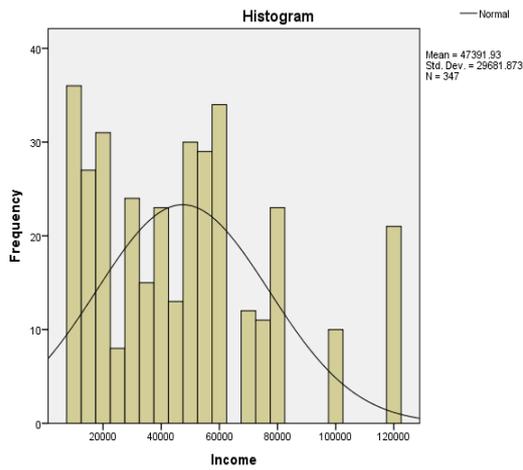


Figure 4.21: Histogram of Income

Source:Field survey, 2015

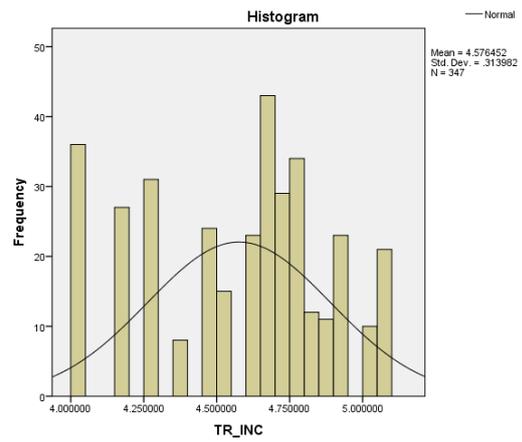


Figure 4.22: Histogram of Transformed Income (Tr_Inc)

Source:Field survey, 2015

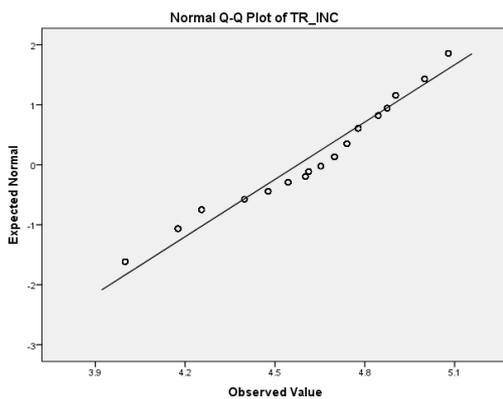


Figure 4.23: Q-Q Plot of Transformed Income

Source:Field survey, 2015

The histogram and normal Q-Q plot of housing affordability as shown in figure 4.24 and figure 4.25 respectively, indicate that the variable household size has a fairly normal distribution.

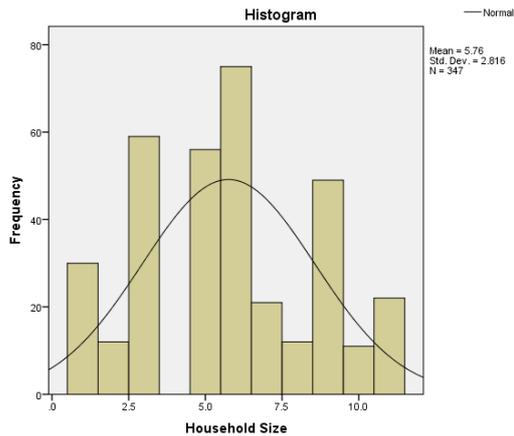


Figure 4.24: Histogram of Household Size

Source: Field survey, 2015

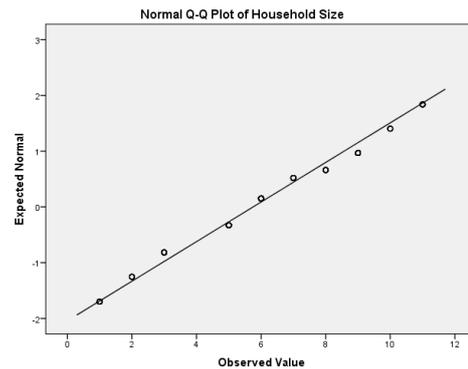


Figure 4.25: Q-Q Plot of Household Size

Source: Field survey, 2015

Table 4.17 Correlation between Housing Affordability and Household Economic Variables

		Housing Expenditure	Income	Household Size
Housing Expenditure	Pearson Correlation	1	.578**	.684**
	Sig. (2-tailed)		.000	.000
Income	Pearson Correlation	.578**	1	.178**
	Sig. (2-tailed)	.000		.446
Household Size	Pearson Correlation	.684**	.178**	1
	Sig. (2-tailed)	.000	.446	

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey, 2015

Table 4.17 above presents the correlation analysis, which is a measure of the strength of association between housing affordability and household economic variables. The values presented are tested at 0.01 (99% confidence level) and 0.05(95% confidence level) significance level. A correlation value with double asterisk indicates a significant correlation value at 0.01 significance level, while one asterisk indicates a significant correlation value at 0.05 significance level.

From table 4.17, it can be seen that there is a very close association between income and housing affordability. From the result, income has a correlation coefficient of -0.592 and significance level of less than 0.01. This implies a moderate positive association between housing affordability and income. This means that the higher the income the more affordable housing becomes among households in the study area. In other words, households with relatively higher incomes have little or no housing affordability problems.

The correlation coefficient for household size is 0.472 with a significance value of less than 0.01. This indicates that the association between housing affordability and household size is moderate and positive. This means that larger households have been observed to have housing affordability problems. While relatively smaller households have less housing affordability problems.

From the result, it can be seen that there is a positive correlation between income and housing expenditure, with a correlation value of 0.578 and significance value of less than 0.01. This implies that households with relatively higher incomes generally spend more on housing in the study area.

4.6 PERCEPTION OF RESPONDENTS ON HOUSING IMPROVEMENT

4.6.1 Responses of Respondents whose Expenditure-to-Income Ratio fell over 30%

During the survey the respondents were asked about how they perceived housing affordability and the results, as shown in figure 30, indicate that of the 183 respondents whose expenditure to income ratio fell over 30% (those who have been categorized in this study as having housing affordability problems), 61.8% considered housing very unaffordable. While 6% and 8.7% considered housing very affordable and affordable respectively.

This finding suggests that though some households may be categorized as having housing affordability problems in the study area by the expenditure to income ratio, some of such households in fact do not perceive their housing situation as problematic.

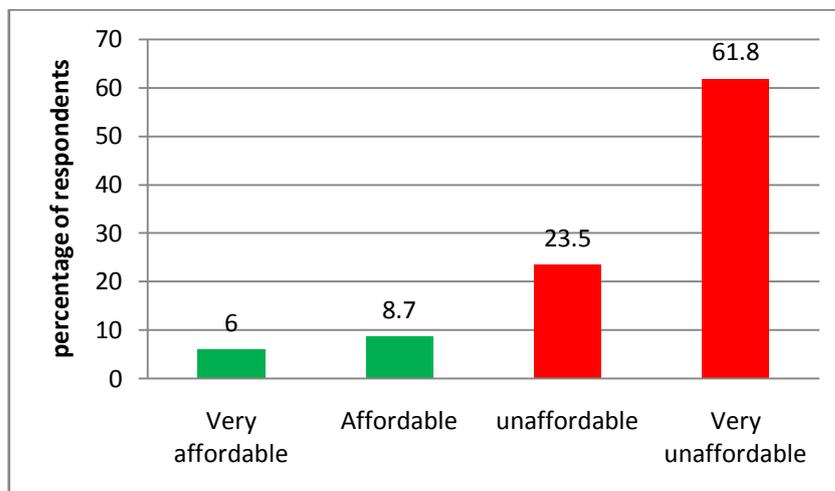


Figure 4.26: Responses on housing affordability of respondents whose expenditure to income ratio fell over 30%

Source: Field survey, 2015

4.6.2 Respondents perceptions on areas of improvement in housing based on preference

When respondents in the study area were asked about areas of improvement in housing, 43.1% felt there should be improvement in water supply in housing and 32.5% felt there should be improvement in the provision of toilets. The result is presented in table 4.18.

Table 4.18: Respondents perceptions on areas of improvement in housing based on preference

Infrastructure	No. of respondents	Percentage of respondents
Water supply	150	43.1
Toilet	113	32.5
More rooms	63	18.1
size of room	12	3.4
Construction material	10	2.9
Total	348	100.0

Source: Field survey, 2015

4.6.3 Willingness to pay more for better housing

The result as presented in table 4.19 suggests that of the 138 households in the rental tenure group, 75.3% are willing to pay more in order to obtain better housing. The willingness of most households in this group to pay more for improvement in housing may simply be an indication of shortage in the supply of adequate housing in terms of basic housing infrastructure in the study area.

Table 4.19: Willingness to pay more for better housing

	No. of respondents	Percentage of respondents
Willing	32	23.2
Not willing	106	76.8
Total	138	100.0

Source: Field survey, 2015

4.6.4 Potential Economic Activities by Households

The result presented in figure 30 shows the responses given by respondents in the study area on the various economic activities they would likely engage in if their housing affordability status should improve. This is because improvement in housing affordability would leave households with more residual income. This finding suggests that housing affordability has a direct relationship with and can exert influence on household economy and also local economic development in the study area. The responses shown in figure 30 below indicates that if more residual income becomes available to households, 22.3% of the respondents will diversify and expand their businesses, 18.5% will invest in other businesses with more returns. Another 18.5% will increase their non-housing expenditure.

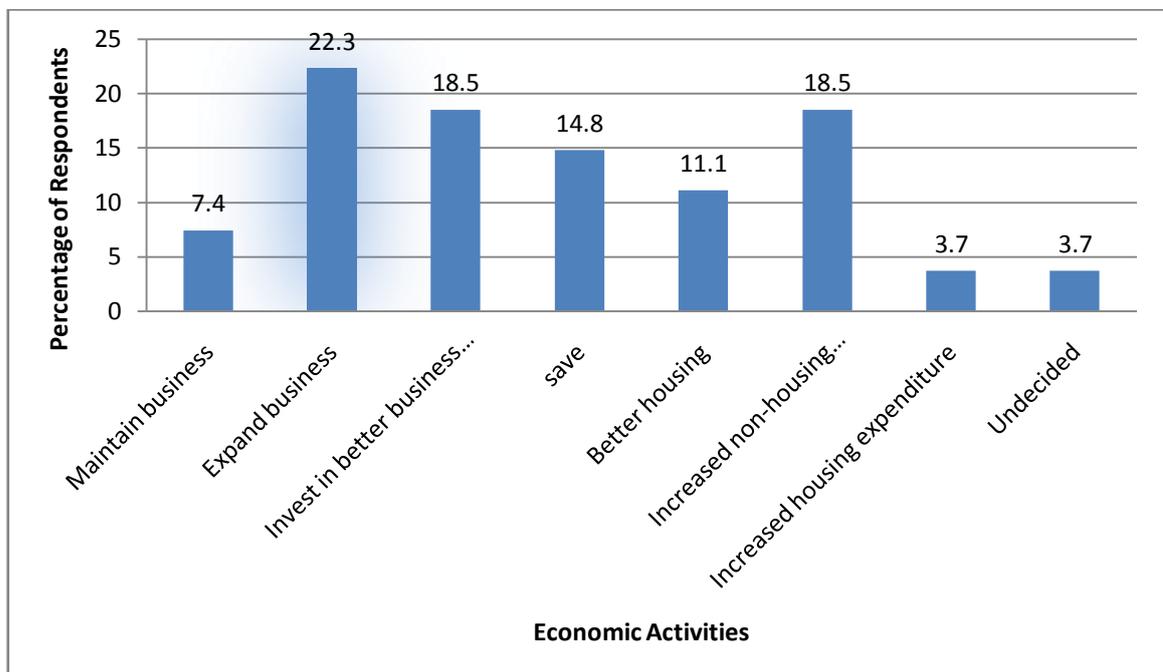


Figure 4.27: Potential Economic Activities by Households

Source: Field survey, 2015

4.7 IMPLICATION OF FINDINGS

The results of this study indicate serious housing affordability problems in the study area. It also revealed that the majority of householders in the study area lack basic housing infrastructure that make housing conducive and by extension promote the development of the built environment and the local economy.

Because high land values lead to increase in property values and rent in the inner part of the urban area, households especially the low-income earners, tend to move to the peripheral areas where property values are less expensive. This results in the occurrence of urban sprawl. Urban sprawl especially in the developing world is associated with development of substandard houses, which can result in the formation of slums. Urban sprawl is also linked with longer commuting times, declining social contacts and loss of valuable farmlands. Because such areas are further away from work places and business premises, additional burden in the form of transportation cost becomes inevitable.

A lack of affordability can put a local economy at a competitive disadvantage. From the findings, households that have no access to affordable housing were less likely to engage in significant productive economic activities. In such conditions, savings and investment will be low or non-existent. This puts a strain on local economic development in the area.

Observation of homeowners with housing cost burden in the study area reveals that they stay mostly in areas with poor housing conditions. Many of these households do not have titles for their properties. This means that such households are unable to use their properties as collateral. In addition, households with housing cost burden normally have little to spend on health and nutrition. This consequently leads to negative health outcomes among households because such households will frequently cut corners on health care and nutrition.

Cost burdened households tend to spend less on education and self-development. This results in significant deficit in educational achievement of residents and a shortage in community capacity building. This can negatively affect the availability of skilled labour and the entrepreneurial capacity in the area.

4.8 CONCLUSION

This section has provided adequate data with regards to socio-economic characteristics of the households in the study area, housing characteristics and the nature of housing affordability in the study area. The data reveals that housing is not affordable to majority of the households in the study area as proven by the two approaches employed in measuring housing affordability in the study. This situation can have negative implications. These include degradation of neighbourhoods, urban sprawl and lack of economic development.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.0 INTRODUCTION

This section provides recommendations based on the findings of the research. It is organized in three sections. Section one provides the summary of the research findings. Section two and section three present the recommendations and conclusion respectively.

5.1 SUMMARY OF KEY FINDINGS

1. The owner occupied housing tenure is the predominant in the study area taking up 55.5% of the total households. This is in agreement with the findings of Ndubueze (2009), that owner occupied housing is predominant in Nigeria.
2. Rental housing tenure group has better housing affordability than the ownership tenure group. This is similar to the situation in some cities of developed nations such as Sweden and Netherlands.
3. More than half of the households (52.6%) in the study area, based on the housing expenditure-to-income ratio, have housing affordability problem.
4. There were no huge disparities between districts in the number of households having housing affordability problems.
5. Sabongari district recorded the highest proportion of households with housing affordability problems in the study area, while Samaru district recorded the lowest proportion.
6. There were respondents who were categorized as having affordability problems using the expenditure-to-income approach. However, using the residual income approach, such households were found out not to be in the problem category.

7. Three variables significantly influence housing affordability in the study area – household income, household size and housing expenditure. This holds true for the country taken as a whole as affirmed by Ndubueze (2009).
8. Income has a positive relationship with housing affordability while household size and housing expenditure have inverse relationships.
9. There was disparity between districts in the amount paid as rent.
10. The provision of basic housing infrastructure in the study area is generally inadequate.
11. Housing affordability has a significant relationship with economic activities in the study area.

5.2 CONCLUSION

The current housing and socio-economic realities in Zaria demand far more vigorous government involvement in housing development, working together with a more committed private sector and energized civil societies in order to tackle the housing problems in the area. Given that over half of the households in Zaria have housing affordability problem and the income levels remain unimpressive for most of the households, the study reasoned and suggested that if housing affordability is to be properly and adequately addressed in the study area and in other urban areas especially of developing countries, there is need for local policy initiatives and interventions, to assist the low income earners. The local government must show deeper commitment to move beyond political rhetoric and pursue practical policy reforms and implementation strategies with a political will that matches the immense housing challenge Zaria urban area faces.

5.2.1 Contributions to knowledge

The study has made the following contributions to the body of literature regarding housing affordability in rapidly growing cities.

- The study established a housing affordability index of -52.6% and -62.6% for Zaria urban area using the ratio and residual income approach respectively.
- The study affirmed that the residual income approach exposes higher housing affordability problems associated with larger household sizes, than in the case of the ratio approach. This has been shown in the study where 69% of households in the owner-occupier housing tenure, which predominates the informal and traditional settlements (where household sizes are usually large), fall under the cost burdened category. This can be compared to 60% of households using the ratio approach.
- The study also established that the residual income approach is more suitable in comparison to the ratio approach in determining housing affordability especially in areas with household size disparity.

5.3 RECOMMENDATIONS

The large proportion of households with ownership tenure reveals the high level of commitment by a majority of households to invest in permanent housing arrangements even under difficult circumstances. Thus, they are more likely to become willing and active partners with governments in order to realize desired housing goals if properly engaged. Therefore, there is the need for a more vigorous effort to significantly reduce the cost of home ownership, both in terms of new and existing housing.

1. The State and Local governments must explore new ways to develop and implement site and services schemes (total funding), urban renewal programmes and capital grant allowance schemes packages and make them more attractive and efficient, in order to mitigate the existing housing expenditure burden of

homeowners and in making home ownership more accessible and affordable. In such favourable conditions, households will spend less on housing expenditure. This leaves them with more residual income for their non-housing needs.

2. The use of rental control may help protect rental households from unnecessary exploitation by unscrupulous landlords and real estate agents. It is often assumed that removing rent control barriers will encourage the private sector to provide more housing. Even though in some situations, extreme rent control can have a depressing effect on private sector housing supply; the total absence of any form of rent control especially in lower income housing markets such as that in the study area may serve to encourage undue exploitation of rental households. For instance, it is not unusual to be asked by landlords for an advanced rental deposit of more than two years whereas about six months to one-year deposit is normally and generally acceptable by others. In some instances, different rents are charged for similar housing units within a building. Therefore, such a total ban of any form of rent control may serve to exacerbate housing affordability problems of households instead of reducing it. Any policy to roll back rent control must ensure that it is carried out within a framework that guarantees that rental households are not unfairly exploited by landlords and real estate agents who may be unreasonable in their dealings. This situation may call for a leasing/tenancy arrangement in the study area to ensure that rights and obligations of all the stakeholders in rental housing are clearly defined and enforced.
3. Kaduna State Urban Planning and Development Agency (KASUPDA) must ensure that all new housing developments and neighbourhood formations are

properly guided through preparation of good residential layouts to ensure that housing is enhanced to benefit both households and the government.

4. The Ministry of Land, Housing and Development working with KASUPDA should encourage and facilitate land regularization in informal settlements in the study area. This will help to empower the residents socio-economically and also to improve their housing environment through a strategy of active stakeholder engagement and coordinated community participation. Acquired land title documents can be used as collateral to facilitate mortgage financing.
5. The government should sensitize and encourage Non-Governmental Organizations (NGOs), Community Based Organizations (CBOs) and Faith Based Organizations (FBOs) to build or facilitate the building of social housing estates with possible incentives by government.
6. The State Government should specifically allocate land for Low-income housing estates and through the local government properly mobilize recipients for effective housing development.
7. Use planning approvals to mandate housing developers to set aside a stipulated percentage of their developments for social housing.
8. Working with tertiary institutions, the government should encourage the establishment of Housing Co-operatives and Associations, self-built construction and locally sourced building materials and provide access to the funds of the Federal Mortgage Bank of Nigeria.

Appendix I.

DEPARTMENT OF URBAN AND REGIONAL PLANNING AHMADU BELLO UNIVERSITY ZARIA

Questionnaire to be administered as part of M.Sc. dissertation in the Department of Urban and Regional Planning, Ahmadu Bello University, Zaria on the **IMPACT OF HOUSING AFFORDABILITY ON LOCAL ECONOMIC DEVELOPMENT**. All information provided will be treated **confidentially** and solely used for the purposes of this research only.

SECTION I: BACKGROUND OF RESPONDENT *(please tick the appropriate box)*

1. **Employment status:**

a. Employed [] b. Unemployed []

2. If employed, please indicate **employment type:**

a. Informal (*kiosk, business within home, hawking etc.*) [] b. Formal (*private*) []

c. Formal (*government employee*) [] e. Other, specify.....

3. **Educational Attainment:**

a. Primary [] b. Secondary [] c. Tertiary []

4. **Household Size**(*Number of persons living in family*):

Please, specify

5. **Monthly Income**

(Please include wage/salary, overtime, revenue from businesses etc.)

Please, specify

SECTION II: HOUSING

1. **Housing tenure:** Please choose the option that describes your tenure.

a. Owner-occupier [] b. Rental [] c. Free Rental (no payment of rent) [] d.

Other, specify

2. **House-Type**

a. Single Room House [] b. Flat [] c. Detached and Semi-Detached [] d. Other,

specify

3. **Number of rooms**

Please, specify.....

4. **Rent / Housing Expenditure Variables**

i. If rental, how much do you pay as rent?

Please, specify.....

- ii. Do you spend on housing maintenance? a. Yes [] b. No []
- iii. If yes, how much do you spend annually on housing maintenance? (plastering, wall, roof & floor repair, etc.)
.....
- iv. What is your source of water supply?
a. Pipe-borne water supply [] b. Well [] c. Borehole [] d. Water carts []
e. Sachet/Bottled water []
- v. How much do you spend monthly on water supply?
.....
- vi. How satisfied are you with your source of water?
a. Very satisfied [] b. satisfied [] c. dissatisfied [] d. very dissatisfied []
- vii. How much do you spend on electricity?
.....
- viii. What type of toilet do you have?
a. Water closet [] b. Pit latrine [] c. other []
- ix. How satisfied are you with your type of toilet?
a. Very satisfied [] b. satisfied [] c. dissatisfied [] d. very dissatisfied []
- x. How much do you spend on waste collection?
.....
- xi. How would you describe your housing?
a. Very affordable [] b. Affordable [] c. Unaffordable [] d. Very unaffordable []
- xii. How long have you stayed in this house?

5. Non-Housing Household Expenditure

- i. How much do you spend monthly on food and other non-housing consumption?
(*Food, clothing, telecommunication*)
6. i. Would you spend more for better or more adequate housing?
a. Yes [] b. No []
- ii. If yes, what aspect of housing would you pay more to obtain?
a. Better construction material [] b. More rooms [] c. Water supply [] d. Power supply [] e. Other, specify
7. i. If there is a significant reduction in the amount you pay for rent and/or increase in your income and you have more money to spare, to what purpose will you put it?
Please, specify

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